Staff Summary Report

Tempe

To: Mayor and City Council
Through: City Manager

Agenda Item Number 27
Meeting Date: 05/17/01

SUBJECT: **PRIEST DRIVE OFFICE COMPLEX**
#GEP-2001.22 #ZON-2001.02 #SIP-2001.23

PREPARED BY: DeeDee (D^2) Kimbrell, Planner II (480-350-8331)

REVIEWED BY: Dave Fackler, Development Services Manager (480-350-8333)

BRIEF: This is the second public hearing for Priest Drive Office Complex for a change of the Projected Land Use Map of General Plan 2020 from Residential to Industrial, zoning change from AG to I-1, and a site plan at 7015 South Priest Drive **(Address number changed from 7001 South Priest Dr)**.

COMMENTS: **PLANNED DEVELOPMENT (0406)** Hold the second public hearing for **PRIEST DRIVE OFFICE COMPLEX** (Alfred P. Sanders Estate Trust, property owner) for an office complex located at 7015 South Priest Drive **(Address number change from 7001 South Priest Dr)**. The following approval is requested from the city of Tempe:

#GEP-2001.22 RESOLUTION NO. 2001.12 General Plan 2020 to change the designation on the Projected Land Use Map of General Plan 2020 from Residential: greater than 8 du/ac to Industrial on 19.99 gross acres.

#ZON-2001.02 ORDINANCE NO. 808.2001.02 Zoning change from AG, Agricultural to I-1, Light Industrial Zoning District on 19.14 net acres.

#SIP-2001.23 A Site Plan for Priest Drive Office Complex consisting of 9 one-story buildings. 110,000 s.f. for office, building A, and buildings B, C, D, E, F, G, H, and I with a combined total of 100,050 s.f. for office/warehouse uses all with a total on site building area of 210,050 s.f. on 19.14 net acres.

Document Name: 20010517devsrh04 Supporting Documents: Yes

SUMMARY: This request is for a change in zoning, a change in General Plan 2020 and a site plan for 9 one-story office buildings located north of Elliot Road, on the eastside of Priest Drive immediately south of the Town of Guadalupe. The applicant is proposing that the projected land use designation of General Plan 2020 be modified from Residential: greater than 8 du/ac to Industrial. The developer's intent is to build nine buildings for office and light industrial uses, with an average square footage for eight of the buildings ranging from 11,000 s.f. to 17,000 s.f. and the ninth building proposed at 110,000 s.f. on a 19.14 net acre parcel located at 7015 South Priest Drive. The General Plan 2020 projected land uses surrounding the subject property to the south is Residential: greater than 8 du/ac. Staff sees no conflicts with this proposal therefore; staff is in support of this project and recommends approval with conditions. On March 27, 2001, the Planning Commission held a hearing to receive input from the public regarding the General Plan amendment. No public comments were received. The Commission raised some question regarding environmental issues related to the former use of the site. To date, there has been no public input. The Planning Commission approved this request by a 7-0 vote at their meeting on April 10, 2001. **Note: The first public hearing for this request was held on May 10, 2001.**

RECOMMENDATION: Staff – Approval
Planning Commission – Approval (7-0 vote)
Public – None to Date

ATTACHMENTS:

1. List of Attachments
2. History & Facts
3. Description

4-5 G.P. Conformance / Comments

6-7 Conditions of Approval

A. General Plan Map
B. Letter of Justification/Quantitative Analysis
C. Site Plan
D. Elevations
E. Conceptual Landscape Plan
F. Retention Calculations
G. Letter to Adjacent Cities & Agencies
H. EPA's – On-Scene Coordinator's Report
I. EPA Newsletter
J. Sanders Aviation Site Plan
K. Ord. No. 808-2001.02
L. Resolution No. 2001.12
M. Aerial Photo
N. Planning Commission Minutes (4/10/01)

HISTORY & FACTS:

1951 to 1984.	The subject site was part of a larger area that was used by the Sanders Aviation Company who operated as an aerial applicator of pesticides.
June 30, 1983.	The subject site was annexed to Tempe (Ordinance No. 1018) from Maricopa County and the area was designated as AG, Agricultural Zoning District.
June 7, 1984.	City Council approved the zoning change for Schuck Land Management Corp. from AG to IBD, R-3 and R-4 for an 108.7 acre parcel as well as a Subdivision Map and Site Plan.
December 13, 1984.	City Council approved a subdivision for Sanders Ranch Units 1 & 2 on 257 acres and Schuck Master Plan indicating a future regional mall at the NEC of Elliot and 56th Street/Priest Drive. Council rezoned most of the parcels that were designated multi-family and those with IBD zoning.
May 9, 1985.	City Council approved the request of Del Webb-Elliot Grove Joint Venture for a rezoning from R-3 to IBD for 11.33 acres located at the NEC of Grove Parkway and the Highline Canal (File Address – 1200 W. Grove Parkway).
February 16, 1989.	**General Plan 2000** was adopted, showing Growth Node for most of the Southwest Overlay District west of Kyrene Road. This designation was not changed in the regular amendment that became effective in May 1992, but the amendment modified language concerning the mix of uses in the Growth Node that is now interpreted as requiring mixed use with an element of owner-occupied residential in the Growth Node.
November 17, 1994.	City Council approved the request by Verde Investments Inc., to rezone a portion of a 31.87 acre site from IBD, Industrial Buffer District to R-3, Multi-Family Residence Limited District for 20.98 net acres at 1250 W. Grove Parkway.
December 1994.	The Environmental Protection Agency (EPA) did some extensive testing on the Sanders Aviation site.
March 1995 – Jan. 1997.	The EPA conducted an emergency removal action on the Sanders Aviation site, approximately 25,500 tons of contaminated soil was excavated to a depth of six feet site, treated and backfilled.
March 27, 2001.	Planning Commission held the first of two hearings on the General Plan Amendment for Priest Drive Office Complex at 7015 South Priest Drive. No public input was received.
April 10, 2001.	Planning Commission approved the General Plan Amendment, Zoning Change and Site Plan for Priest Drive Office Complex located at 7015 South Priest Drive by a 7-0 vote.
May 10, 2001.	City Council held their first public hearing for this request.

DESCRIPTION: Owner – Alfred P. Sanders Trust
Applicant – Colonial Development – Syd Sandys
Steve Bauer, Development Strategies, Inc.
Architect – Raman Design Associates – Bala Raman
Engineer – Z & H Engineering Inc.

General Plan 2020 Amendment
Existing designation – Residential: Greater than 8 DU/AC
Proposed designation – Industrial
Total site area – 19.14 net acres

Zoning
Existing zoning – AG, Agriculture
Proposed zoning – I-1, Light Industrial
Total site area – 19.14 net acres

Site Plan
Building area –
Building A – 110,000 s.f.
Building B – 10,600 s.f.
Building C – 12,150 s.f.
Building D – 12,900 s.f.
Building E – 16,550 s.f.
Building F – 12,150 s.f.
Building G – 12,950 s.f.
Building H – 12,150 s.f.
Building I – 10,600 s.f.
Total building area – 210,050 s.f

Maximum Allowed Lot Coverage – 50%
Proposed Lot Coverage – 25.19%
Maximum Allowed Building Height – 30'
Proposed Building Height – 28'
Parking required – 686 spaces
Parking provided – 1,004 spaces
Minimum Landscape Required – 10%
Landscape Provided – 30%
Bicycle Parking Spaces Required – 69
Bicycle Parking Spaces Provided - 74

GENERAL PLAN CONFORMANCE:

The General Plan 2020 shows this site as Residential: greater than 8 du/ac. The proposed use is Industrial.

COMMENTS:

This request is for a change in zoning, a change in General Plan 2020 and a site plan for 9 one-story office buildings located north of Elliot Road, on the eastside of Priest Drive immediately south of the Town of Guadalupe.

History of the Site

The delineated site was part of a larger area that was used by Sanders Aviation who operated as an aerial applicator of pesticides from 1951 to 1984. Sanders operated on an eighty-acre parcel of land. The southern sixty acres, which formerly consisted of a agricultural land and half of the airstrip, was sold in 1984 and has been developed for residential and commercial/retail use. The northern 20 acres of the property, which includes the remainder of the airstrip and the active portion of the crop-dusting facility, is currently a vacant lot surrounded by a barbed-wire fence. The area around the site consists of residential and industrial property. The nearby residential communities include the town of Guadalupe, the Tempe Royal Estates subdivision and an apartment development located along the southern boundary of the site.

Soils at the site were contaminated with a variety of pesticides. The Sanders Estate spent approximately $1,100,000 in an effort to clean up the site without completing the remediation. In December of 1994 the Environmental Protection Agency did some extensive testing for a period of time and conducted an emergency removal action from March 1995 through January 1997. In total some 25,500 tons of contaminated soil was excavated to a depth of six feet, treated and backfilled.

The Environmental Protection Agency (EPA) suggested that the site not be used for any residential use and deed restrictions be implemented which would forbid future residential use of the property. While the site was remediated to levels that are within EPA's acceptable risk range for residential property, EPA feels that the deed restriction is appropriate since possible contaminated soils were left in place below six feet in three areas of the site.

General Plan 2020

The General Plan 2020 amendment requested is from Residential: greater than 8du/ac to Industrial. The attached applicant's development analysis shows that this development should further several goals, principles and policies of the general plan. With the addition of jobs, service, and revenue generated, it should also be an economic benefit to Tempe and it appears to meet the goals and objectives of General Plan 2020.

Rezoning

The proposal includes a zone change from Ag, Agricultural District to I-1, Light Industrial District. The proposal is for 19 acres consisting of 9 one-story office and office/industrial buildings.

Site Plan

The developer's intent is to build nine buildings for office and light industrial uses. The average square footage for eight of the buildings range from 11,000 s.f. to 17,000 s.f. with the ninth building proposed at 110,000 s.f. The total site area proposed is on a 19.14 net acre parcel located at 7015 South Priest Drive. Three "hot spots" (disposal pond, dry well/wash and the run-up pad areas) have been identified as areas of the site where toxaphene contaminated soil was left in place below 6 feet beneath ground surface. Understanding this situation, care has been given by the applicant in that no penetration of that six-foot barrier will be made. The placement of sewer lines, dry wells, retention basins and any utility conduits have been placed away from those possible contaminated areas.

Conclusion

The proposed General Plan Amendment, zone change and site plan appears to be compatible with the surrounding neighborhood. Given the history of the site staff believes this is a good use for the site and supports the General Plan Amendment, zone change and site plan. On March 27, 2001, the Planning Commission held a hearing to receive input from the public regarding the General Plan amendment. No public comments were received. To date, there has been no public input. The Planning Commission approved this request by a 7-0 vote at their meeting on April 10, 2001.

REASON(S) FOR APPROVAL:

1. The proposed zone change and General Plan 2020 Amendment appear to operate in a functional and useful manner and appear to be compatible with surrounding development.

2. The proposed site plan appears to be compatible with the surrounding development and is consistent with the existing land use patterns of the area.

3. The proposed site plan appears to meet the zoning ordinance requirements and should not have detrimental effect on adjacent properties.

4. Due to the land use history of this site, office and light industrial operations appear to be the most appropriate land use for this site.

CONDITION(S) OF APPROVAL:

1. a. The Public Works Department shall approve all roadway, alley, and utility easement dedications, driveways, storm water retention, and street drainage plans, water and sewer construction drawings, refuse pickup, and off-site improvements. When reviewing and approving dry wells and drainage plan, staff should pay particular attention to the history of the site and hazardous material that once existed. **(MODIFIED BY COMMISSION)**

   b. Off-site improvements to bring roadways to current standards include:
      (1) Water lines and fire hydrants
      (2) Sewer lines
      (3) Storm drains.
      (4) Roadway improvements including streetlights, curb, gutter, bikepath, sidewalk, bus shelter, and related amenities.

   c. Fees to be paid with the development of this project include:
      (1) Water and sewer development fees.
      (2) Water and/or sewer participation charges.
      (3) Inspection and testing fees.

   d. All applicable off-site plans shall be approved prior to recordation of Final Subdivision Plat.

2. a. All street dedications shall be made within six (6) months of Council approval.

   b. Public improvements must be installed prior to the issuance of any occupancy permits. Any phasing shall be approved by the Public Works Department.

   c. All new and existing, as well as on-site and off-site, utility lines (other than transmission lines) shall be placed underground prior to the issuance of an occupancy permit for this (re)development in accordance with the Code of the City of Tempe - Section 25.120.

3. Should the property be subdivided, the owner(s) shall a continuing care condition, covenant and restriction for all of the project's landscaping, required by Ordinance or located in any common area on site. The CC&R's shall be in a form satisfactory to the Development Services Director and City Attorney.

4. No variances may be created by future property lines without the prior approval of the City of Tempe.

5. Design Review Board shall approve this request prior to the issuance of a building permit.

6. A building permit shall be obtained and substantial construction commenced within two (2) years of the date of Council approval or the zoning shall revert to that in place at the time of application.

7. The applicant shall comply with all applicable state and federal laws regarding archeological artifacts on this site.

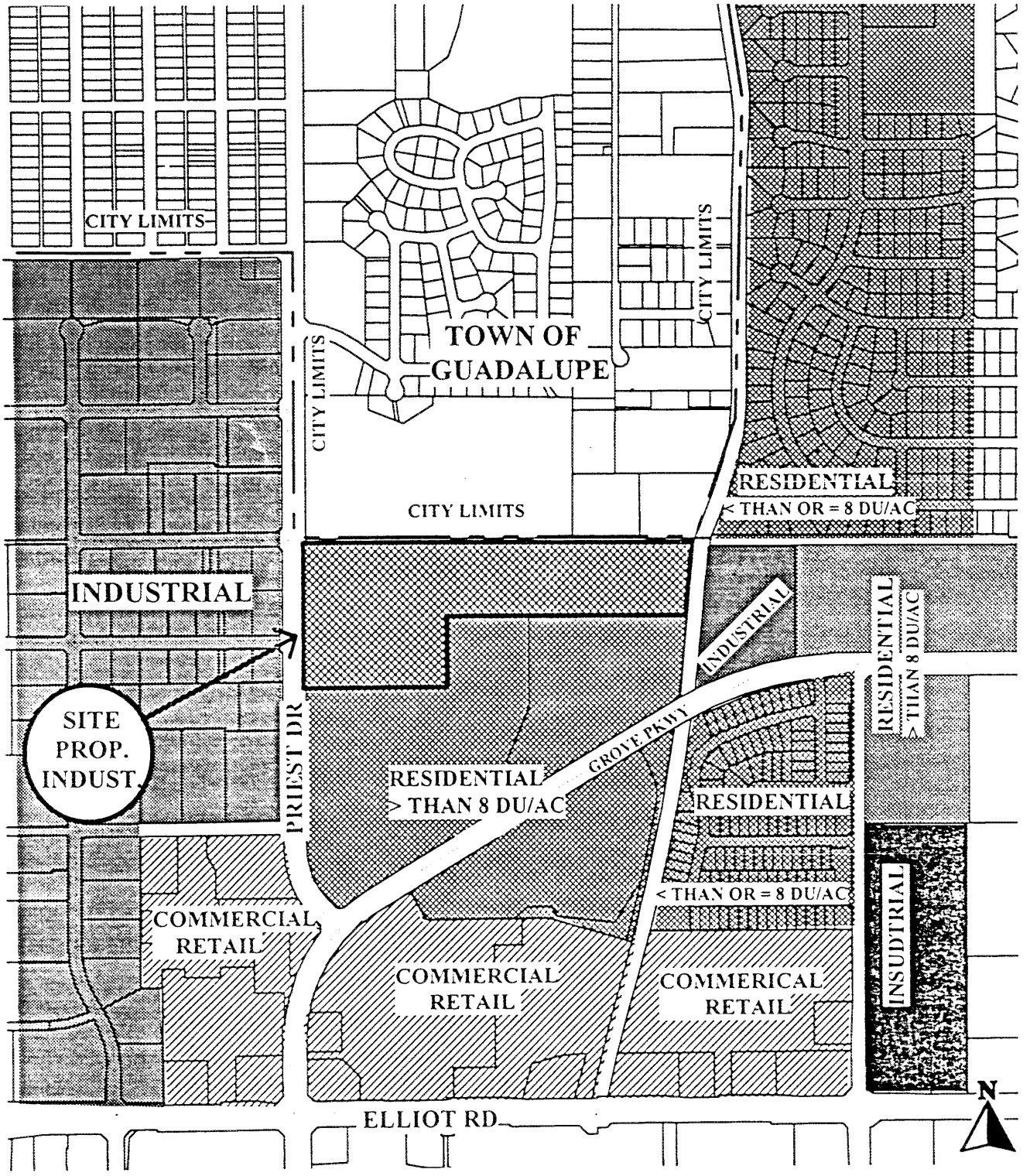
8. The developer shall provide the City with satisfactory evidence of cross access agreement and cross drainage agreement prior to the issuance of a building permit.

9. The applicant shall resolve all lighting and security details with the Crime Prevention staff prior to the issuance of a building permit.

Tempe

PRIEST DRIVE OFFICE COMPLEX

GEP-2001.22



Location Map

Colonial Development, L.L.C.

4368 N. Civic Center Plaza, Suite 200 • Scottsdale, Arizona 85251
Telephone (480) 424-3977 • Facsimile (480) 424-3978

February 22, 2001

City of Tempe
Attention: City Council
Planning & Zoning Commission

By Hand:

Re: Re-zoning and General Plan amendment to accommodate a nine building Industrial complex consisting of 19.1 acres located at 7001 S. Priest Drive.

History of site:

The delineated site was part of a larger area that was used by the Sanders Aviation Company who operated as an aerial applicator of pesticides from 1951 to 1984. Soils at the site were contaminated with a variety of pesticides. The Sanders Estate spent approximately $1,100,000 in an effort to clean up the site without completing the remediation. In December of 1994 the Environmental Protection Agency did some extensive testing for a period of time and conducted an emergency removal action from March 1995 through to January 1997. The Environmental Protection Agency spent slightly in excess of $3,300,000 performing their duties in cleaning up the site. In total some 25,500 tons of contaminated soil was excavated to a depth of six feet, treated and backfilled.

It is our understanding that the Environmental Protection Agency has corresponded with ADEQ, The City of Tempe and the property owners on issues relating to the future use of the property. The Environmental Protection Agency suggested that the site not be used for any residential use and deed restrictions be implemented which would forbid future residential use of the property. While the site was remediated to levels that are within EPA'S acceptable risk range for residential property, EPA feels that the deed restriction approach is appropriate since possible contaminated soils were left in place below six feet in three areas of the site.

Colonial Development L.L.C. involvement:

Representatives of Colonial Development have been involved in real estate development in the greater part of the valley marketplace since 1979 and have been responsible for developing in excess of 1,600,000 square feet of commercial and industrial property during that period of time. Colonial Development is still very active and has a number of projects presently under various stages of development.

B

During the second quarter of 2000 Colonial was introduced to the subject site by Johnson Commercial Real Estate. Colonial Development proceeded to do an extensive analysis as what would be the highest and best use of the property which would be needed by the community and at the same time to satisfy their economic goals. After an extensive study it was determined that a need exists for a Back Office site in this area which could accommodate multiple types of users needing six cars of parking per thousand square feet of building. The larger section of the land facing Priest would appear to be an excellent Back Office site. The eastern portion accommodates smaller industrial type buildings in a very satisfactory manner and this type of product also was found to be lacking in the near neighborhood.

A significant part of Colonial Development's due diligence was to enter into a contract with the Environmental Protection Agency whereby they would agree not to take any action and hold Colonial Development harmless for any contamination to the site prior to us taking ownership. At the time of this letter the terms and conditions of this contract have been satisfactorily negotiated and we are awaiting the blessing of the Department of Justice. In addition an alternate contract will be signed with ADEQ outlining the same conditions as the EPA contact.

Site Characteristics:

A: Property elevation:

There is a an elevation difference of approximately twenty feet from the highest point being on the west side (Priest Drive) to the eastern boundary being the canal. Understandably this situation posed many problems in trying to deal with water retention for the project. Our Civil Engineer has met with the City's Engineer a few times and we believe a proper and feasible solution is being presented.

B: Environmental issue:

We have had a number of conversations with the Engineering Company who did the remedial work for the Environmental Protection Agency who were very helpful in describing what work was done and supplied us with plans of the exact locations of their work. As noted above no remediation was done below the six foot level in certain areas of the site. Understanding this situation extreme care has been given that no penetration of that six foot barrier will be made. The placement of Sewer Lines, Dry Wells, Retention Basins and any Utility Conduits have been placed far away from those possible contaminated areas. These placements coupled with the retention issues mentioned above posed a considerable challenge to our Consulting Engineers however we believe that all of the above has been accomplished.

Colonial Development recently employed Certified Environmental Services who performed a Phase One Study of the property and their report recommended that no further study or testing was necessary.

C: Fiber Optics:

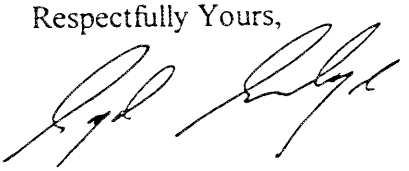
Presently three Companies have placed Fiber Optics along Priest Drive. It is our understanding that SRP will be installing Dark Fiber along the canal which will be available to any Fiber Provider. Along with the availability of Fiber SRP has a satellite power station very close to our site on the west side of Priest Drive. All of the above points to all of the necessary requirements for Data Communication Companies. Presently there are seventy-two Companies registered with The Arizona Corporation Commission who are licensed Fiber Optic Providers. We have hired a Data Communication Consultant who has advised us what specifications we should include in our construction since it is very likely these fiber providers will be occupants in our project.

D: Site Amenities and Neighborhood:

Directly to the south is an Apartment project. To the southeast and west is a modern Back Office project. The west has numerous Industrial and Office buildings. We have been told that a local Developer is planning some Industrial buildings directly to the north of our site. A large concentration of retail exists close by with Hotels, Restaurants and Banking facilities. The site offers easy access to both the I-10 Freeway and the Superstition Freeway. Both the Sky Harbor Airport and Arizona State University are in close proximity.

We are of the belief that the project as presented would be an asset to the Community at large and respectfully request the City of Tempe to grant the proposed change in zoning and General Plan Amendment.

Respectfully Yours,



Syd Sandys, Authorized Representative
Colonial Development, L.L.C.

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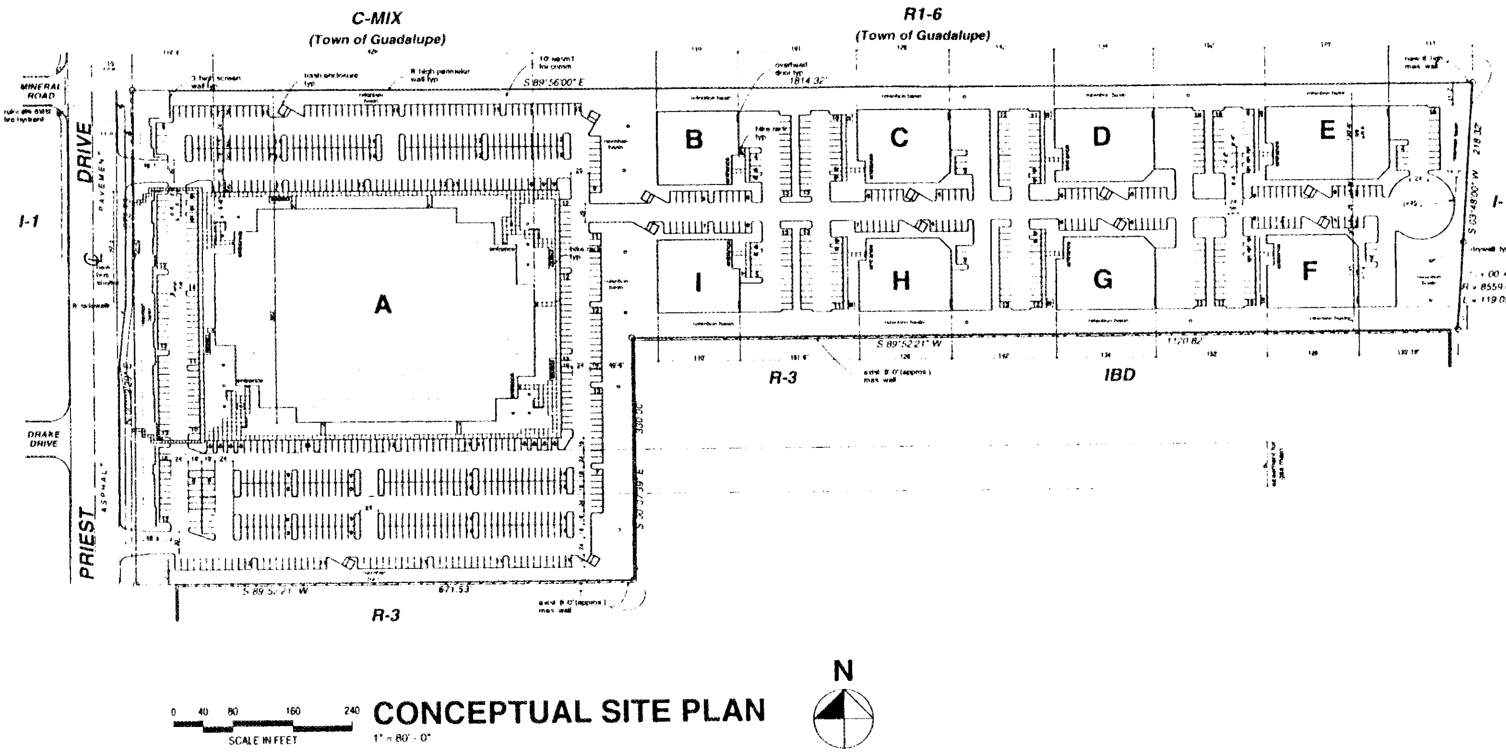
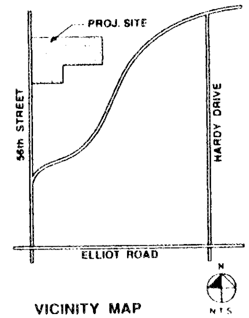


CONCEPTUAL SITE PLAN

1" = 80' - 0"



VICINITY MAP

PROJECT DATA...

ARCHITECT	RAMAN DESIGN ASSOCIATES 2659 W. GUADALUPE ROAD SUITE D-201 MESA AZ 85202
PROJECT LOCATION	7015 S. PRIEST DRIVE TEMPE AZ 85283
REZONING	AG to I-1
PARCEL SIZE	net 833,938 s.f. (19.14 ac.) gross 870,943 s.f. (19.99 ac.)

	bldg. area	bldg. ht.	no. of story
BLDG. A	110,000 s.f.	28 ft	one
BLDG. B	10,800 s.f.	28 ft	one
BLDG. C	12,150 s.f.	28 ft	one
BLDG. D	12,500 s.f.	28 ft	one
BLDG. E	16,550 s.f.	28 ft	one
[illegible]	[illegible]	[illegible]	[illegible]
BLDG. G	12,950 s.f.	28 ft	one
BLDG. H	12,150 s.f.	28 ft	one
BLDG. I	10,800 s.f.	28 ft	one
Total Bldg. Area	210,050 s.f.		

Total Lot Coverage	25.19 %
OCCUPANCY	Bldg. A B (offices) Bldg. B thru I B / S1 (office/warehouse)
CONSTRUCTION TYPE	V N (automatic fire sprinklers)

	bike rack req'd	bike rack provided	parking req'd (includes H/C)	parking provided (includes H/C)	H/C req'd 2 % of provided	H/C provided
BLDG. A	44 spaces	48 spaces	440 spaces	688 spaces	14 spaces	14 spaces
BLDG. B	3 spaces	3 spaces	28 spaces	29 spaces	2 space	2 spaces
BLDG. C	3 spaces	3 spaces	30 spaces	37 spaces	2 space	2 spaces
BLDG. D	3 spaces	3 spaces	32 spaces	45 spaces	2 space	2 spaces
BLDG. E	4 spaces	4 spaces	40 spaces	49 spaces	2 spaces	3 spaces
BLDG. F	3 spaces	4 spaces	30 spaces	37 spaces	2 spaces	3 spaces
BLDG. G	3 spaces	3 spaces	32 spaces	48 spaces	2 space	2 spaces
BLDG. H	3 spaces	3 spaces	[illegible] spaces	40 spaces	2 space	2 spaces
BLDG. I	3 spaces	3 spaces	26 spaces	31 spaces	2 space	2 spaces

* 20/80 office/warehouse ratio used for above parking calculations

	total landscaping req'd	total landscaping provided
BLDG. A - I	83,393 s.f.	249,250 s.f.

MAR 3 0 2001

SIP 2001.23

RAMAN DESIGN ASSOCIATES

2659 W. GUADALUPE RD
SUITE D-201
MESA, ARIZONA 85202
(480) 897-2578

CONCEPTUAL SITE PLAN

PRIEST DRIVE OFFICE COMPLEX

7015 S. PRIEST DRIVE TEMPE AZ 85283

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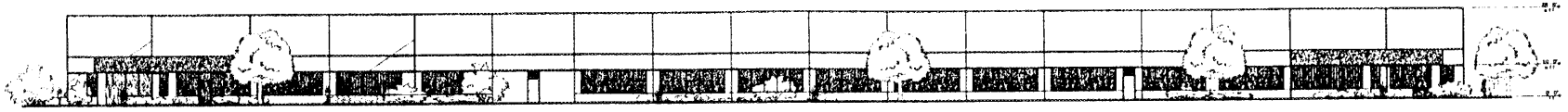
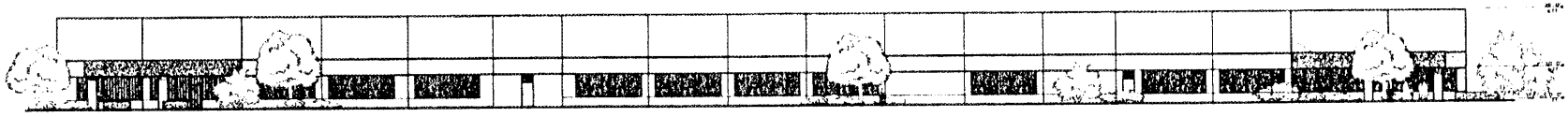
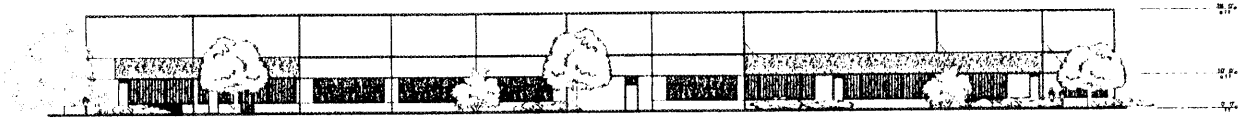


Bldg. A - North Elevation

Bldg. A - West Elevation



Bldg. A - South Elevation

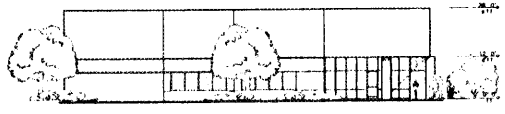


Bldg. A - East Elevation

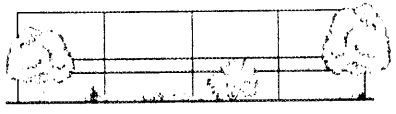
NOTE: (ALL BUILDINGS)

a) EXTERIOR BUILDING WALLS - CONCRETE TILT-UP PANELS

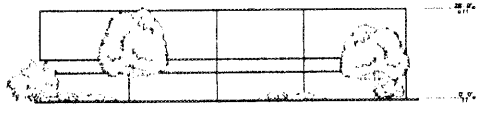
b) EXTERIOR DOORS & WINDOWS GLAZING - TINTED GLASS



Bldg. B - S. Elev.

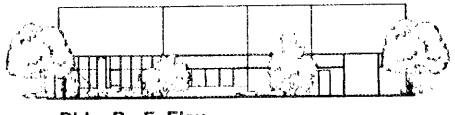


Bldg. B - W. Elev.



Bldg. B - N. Elev.

(Bldg. C - I similar)



Bldg. B - E. Elev.

SCALE: 1/16" = 1'-0" (TYP. ALL BLDG. ELEV. SCALE)

SIP-2001.23

RDA
RAMAN
DESIGN
ASSOCIATES

CONCEPTUAL BUILDING ELEVATIONS

PRIEST DRIVE OFFICE COMPLEX

7001 S. PRIEST DRIVE TEMPE, AZ 85283

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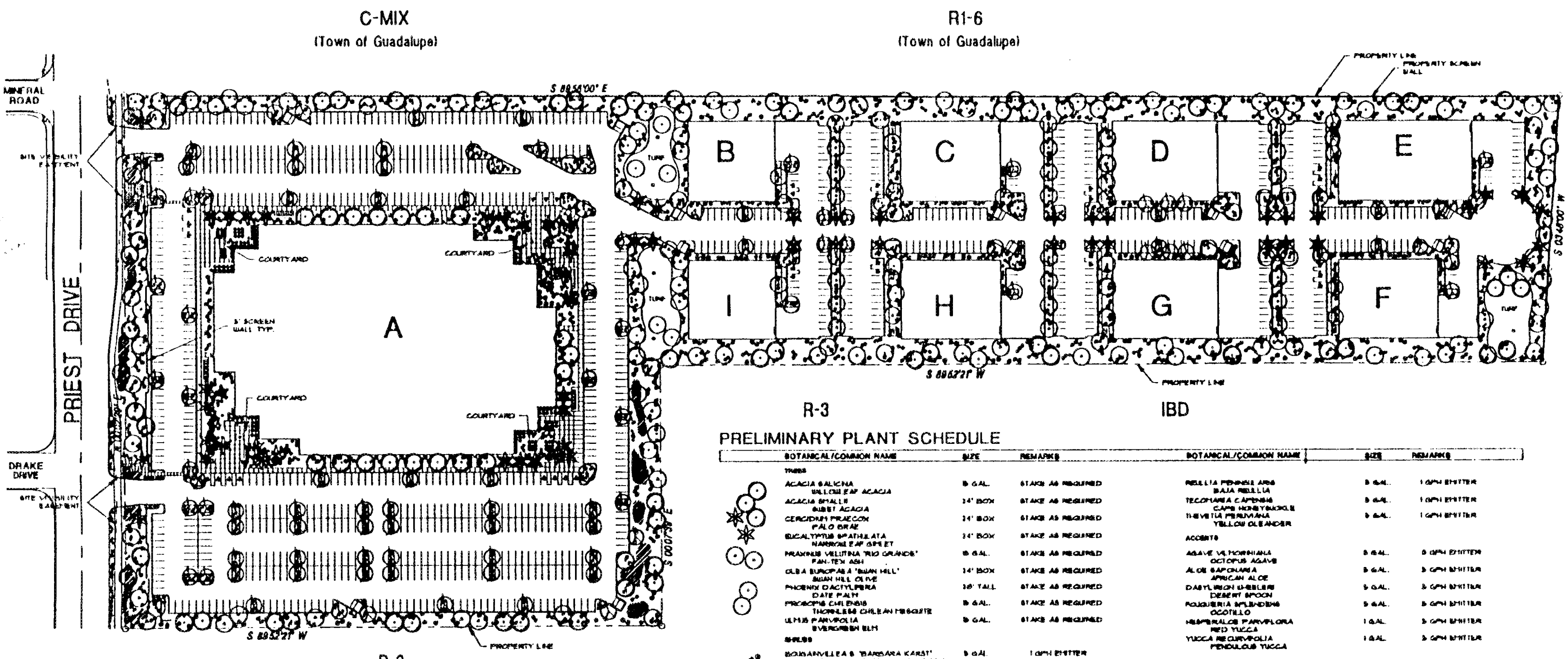


NOTES

- ALL LANDSCAPE TO BE WATERED BY A FULLY AUTOMATIC UNDERGROUND IRRIGATION SYSTEM
- THE MAXIMUM HEIGHT OF ALL SHRUBS & GROUNDCOVERS SHALL NOT EXCEED 2'-6" IN THE FOLLOWING AREAS
  - LANDSCAPE PARKING ISLANDS
  - ANYWHERE WITHIN 6' OF ALL PARKING STALLS
  - ANYWHERE WITHIN 6' OF SIDEWALKS
  - ANYWHERE WITHIN A 6' RADIUS OF ALL BUILDING ENTRANCES
- 50% OF TREES REQUIRED TO BE 24" BOX MIN

PRELIMINARY PLANT SCHEDULE

	BOTANICAL/COMMON NAME	SIZE	REMARKS
	TREES		
	ACACIA SALICINA WILLOW LEAF ACACIA	5 GAL.	STAKE AS REQUIRED
	ACACIA SMALLII SWEET ACACIA	24" BOX	STAKE AS REQUIRED
	CERCIDIUM PRAECOX PALO BREA	24" BOX	STAKE AS REQUIRED
	EUCALYPTUS SPATHULATA NARROW LEAF GIMLET	24" BOX	STAKE AS REQUIRED
	FRAXINUS VELUTINA 'RIO GRANDE' FAN-TEX ASH	5 GAL.	STAKE AS REQUIRED
	OLEA EUROPAEA 'SWAN HILL' SWAN HILL OLIVE	24" BOX	STAKE AS REQUIRED
	PHOENIX DACTYLIFERA DATE PALM	10' TALL	STAKE AS REQUIRED
	PROSOPIS CHILENSIS THORNLESS CHILEAN MESQUITE	5 GAL.	STAKE AS REQUIRED
	ULMUS PARVIFOLIA EVERGREEN ELM	5 GAL.	STAKE AS REQUIRED
	SHRUBS		
	BOUGAINVILLEA B. 'BARBARA KARST' BARBARA KARST BOUGAINVILLEA	5 GAL.	1 GPH EMITTER
	CARISSA GRANDIFLORA NATAL PLUM	5 GAL.	1 GPH EMITTER
	CASSIA ARTEMISIOIDES FEATHERY CASSIA	5 GAL.	1 GPH EMITTER
	CHAMAEROPS HUMILIS MEDITERRANEAN FAN PALM	5 GAL.	1 GPH EMITTER
	CONVOLVULUS CNEORUM BUSH MORNING GLORY	5 GAL.	1 GPH EMITTER
	DALEA FRUTESCENS 'SIERRA NEGRA' BLACK DALEA	5 GAL.	1 GPH EMITTER
	DODONAEA VISCOSA HOPSEED BUSH	5 GAL.	1 GPH EMITTER
	GUARA LINDHEIMERI DESERT ORCHID	5 GAL.	1 GPH EMITTER
	JUSTICIA CALIFORNICA CHUPAROSA	5 GAL.	1 GPH EMITTER
	LEUCOPHYLLUM C. 'THUNDERCLOUD'™ THUNDERCLOUD SAGE	5 GAL.	1 GPH EMITTER
	LEUCOPHYLLUM LANGMANIAE 'RIO BRAVO' RIO BRAVO SAGE	5 GAL.	1 GPH EMITTER
	LEUCOPHYLLUM ZYGOPHYLLUM CIMARRON SAGE™	5 GAL.	1 GPH EMITTER
	MUHLENBERGIA RIGENS DEER GRASS	5 GAL.	1 GPH EMITTER

	BOTANICAL/COMMON NAME	SIZE	REMARKS
	RUELLIA PENINSULARIS BAJA RUELLIA	5 GAL.	1 GPH EMITTER
	TECOMARIA CAPENSIS CAPE HONEYSUCKLE	5 GAL.	1 GPH EMITTER
	THEVETIA PERUVIANA YELLOW OLEANDER	5 GAL.	1 GPH EMITTER
	ACCENTS		
	AGAVE VILMORINIANA OCTOPUS AGAVE	5 GAL.	5 GPH EMITTER
	ALOE SAPONARIA AFRICAN ALOE	5 GAL.	5 GPH EMITTER
	DASYLIRION WHEELERI DESERT SPOON	5 GAL.	5 GPH EMITTER
	FOUQUIERIA SPLENDENS OCOTILLO	5 GAL.	5 GPH EMITTER
	HESPERALOE PARVIFLORA RED YUCCA	1 GAL.	5 GPH EMITTER
	YUCCA RECURVIFOLIA PENDULOUS YUCCA	1 GAL.	5 GPH EMITTER
	GROUNDCOVER		
	ACACIA REDOLENS 'DESERT CARPET' TRAILING ACACIA	1 GAL.	1 GPH EMITTER
TURF	CYNODON DACTYLON 'MIDIRON' MIDIRON HYBRID BERMUDA	SOD	POP UP SPRAY HEADS
	DALEA GREGGII TRAILING INDIGO BUSH	1 GAL.	1 GPH EMITTER
	LANTANA MONTEVIDENSIS NEW GOLD LANTANA	1 GAL.	1 GPH EMITTER
	LANTANA MONTEVIDENSIS PURPLE TRAILING LANTANA	1 GAL.	1 GPH EMITTER
	VERBENA GOODDINGII GOODDING'S VERBENA	1 GAL.	1 GPH EMITTER
	WEDELIA TRILOBATA YELLOW DOT	1 GAL.	1 GPH EMITTER
	MATERIAL		
	DECOMPOSED GRANITE 'EXPRESS ROSE'	3/4" MINUS	2" DEPTH ALL LANDSCAPE AREAS
	WEATHERED GRANITE BOULDERS SURFACE SELECT	1/2 - 3 TON 1 TON AVG.	NATURAL DARK FINISH SEE DETAIL

Priest Property

PRELIMINARY LANDSCAPE PLAN

NORTH

SCALE: 1"=60'

SIP 2001-23

MAR 2 0 2001

Z & H ENGINEERING, INC.
717 West Dunlap Avenue
PHOENIX, ARIZONA 85021
(602) 997-7536

JOB Priest Dr. Office Complex 00070
SHEET NO. 1 OF 5
CALCULATED BY JVB DATE 11-20-00
CHECKED BY _____ DATE _____
SCALE _____

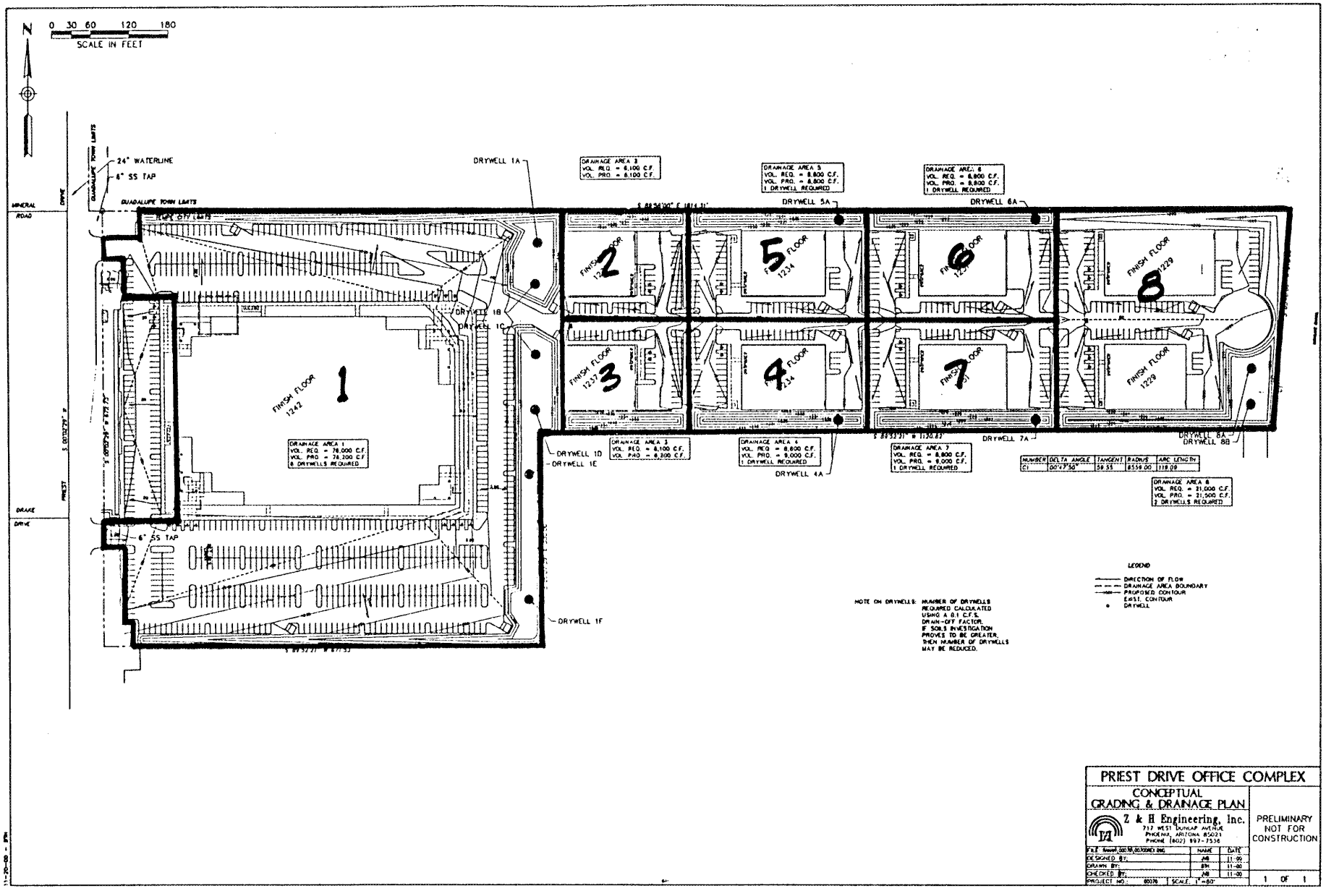
RETENTION CALCULATIONS

PRIEST DRIVE OFFICE COMPLEX

Priest Drive and Drake Drive
Tempe, Arizona

1 Cover Sheet
2 Drainage Area Map
3 - 4 Retention Basin Calculations
5 Drywell Calculations

F



PRIEST DRIVE OFFICE COMPLEX

CONCEPTUAL GRADING & DRAINAGE PLAN

Z & H Engineering, Inc.
717 WEST DUNLAP AVENUE
PHOENIX, ARIZONA 85021
PHONE (602) 997-7536

	NAME	DATE
DESIGNED BY:	MB	11-00
DRAWN BY:	BH	11-00
CHECKED BY:	MB	11-00

PROJECT NO.: 00076 | SCALE: 1"=60'

PRELIMINARY NOT FOR CONSTRUCTION

1 OF 1

DRAINAGE AREA MAP

EXHIBIT 5

Z & H ENGINEERING, INC.
717 West Dunlap Avenue
PHOENIX, ARIZONA 85021
(602) 997-7536

JOB Priest Dr. Office Complex 00070
SHEET NO. 3 OF 5
CALCULATED BY JVB DATE 11-20-00
CHECKED BY _____ DATE _____
SCALE _____

Retension Basin 1

Total Area = 418,100
Less L/S = - 58,200

359,900 SF

$$C_{AVG} = \frac{0.95\,(359{,}900) + 0.35\,(58{,}200)}{418{,}100} = 0.87$$

$$V_{REQ'D} = 0.87\,(418{,}100)\,\frac{2.5}{12} = 76{,}000\ CF$$

$V_{PROVIDED}$ = 76,200 CF > 76,000 ∴ OK ✓

Retension Basins 2 & 3

Total Area = 200 × 170 = 34,000
Less L/S = - 5,800

28,200 SF

$$C_{AVG} = \frac{0.95\,(28{,}200) + 0.35\,(5{,}800)}{34{,}000} = 0.85$$

$$V_{REQ'D.} = 0.85\,(34{,}000)\,\frac{2.5}{12} = 6{,}100\ CF$$

$V_{PROVIDED}$ = 6,100 and 6,200 ∴ OK ✓

F

Z & H ENGINEERING, INC.
717 West Dunlap Avenue
PHOENIX, ARIZONA 85021
(602) 997-7536

JOB Priest Dr. Office Complex 00070
SHEET NO. 4 OF 5
CALCULATED BY JVB DATE 11-20-00
CHECKED BY DATE
SCALE

Retension Basins 4, 5, 6, 7

$C_{AVG} = 0.85$

$V_{REQ'D} = 0.85\ (49,300)\ \frac{2.5}{12} = 8,800\ CF$

$V_{PROVIDED} =$ 8,800 and 9,000 ∴ OK ✓

Retension Basin 8

$C_{AVG} = 0.85$

$V_{REQ'D.} = 0.85\ (119,000)\ \frac{2.5}{12} = 21,000\ CF$

$V_{PROVIDED} =$ 21,500 ∴ OK.

F

Z & H ENGINEERING, INC.
717 West Dunlap Avenue
PHOENIX, ARIZONA 85021
(602) 997-7536

JOB Priest Dr. office Complex 00070
SHEET NO. 5 OF 5
CALCULATED BY JVB DATE 11-20-00
CHECKED BY DATE
SCALE

Drywell Requirements

Assume: 0.1 cfs capacity

$$\frac{0.1\ ft^3}{sec} \times \frac{3600\ sec}{hr} \times \frac{36\ hrs}{1} = 12{,}960\ ft^3$$

Basin 1

$$M = \frac{76{,}000}{12{,}960} = (6)\ \text{Drywells}$$

Basin 2 & 5

$$M = \frac{6100 + 8{,}800}{12{,}960} = (1)\ \text{Drywell}$$

Basin 3 & 4

$$M = \frac{6100 + 8{,}800}{12{,}960} = (1)\ \text{Drywell}$$

Basin 6

$$M = \frac{8{,}800}{12{,}960} = (1)\ \text{Drywell}$$

Basin 7

$$M = \frac{8{,}800}{12{,}960} = (1)\ \text{Drywell}$$

Basin 8

$$M = \frac{21{,}000}{12{,}960} = (2)\ \text{Drywells}$$

F

City of Tempe
P. O. Box 5002
31 East Fifth Street
Tempe, AZ 85281
602-350-8872 (FAX)
www.tempe.gov

Tempe

Development Services Department
480-350-8331 (phone)

March 2, 2001

To: Arizona Department of Commerce
Arizona State Land Department
Maricopa Association of Governments
Planning Departments of Phoenix, Mesa, Chandler, Scottsdale, Guadalupe, Maricopa County and the Salt River Pima-Maricopa Indian Community

Re: AMENDMENT TO THE CITY OF TEMPE **GENERAL PLAN 2020 – #GEP 2001.22 (Priest Drive Office Complex),** 19.99 gross acres, located at 7001 South Priest Drive.

Dear Director/Manager:

As stipulated in ARS §9-461.05 (F) the City of Tempe, Arizona hereby transmits to your agency for review and comment a proposed map amendment to the **TEMPE GENERAL PLAN 2020.** State Law provides for a sixty (60) day period for review. If your agency has any comments on the proposed amendment, please send them to us prior to May 10, 2001.

> The applicant is proposing to modify the designation on the **General Plan 2020** Projected Land Use Map from **Residential: > than 8 du/ac** to **Industrial** at **7001 South Priest Drive.**

The Tempe Planning Commission will hold two public hearings on this proposal. The first **on Tuesday, March 27, 2001 at 7:00 p.m. at Pyle Center (Yuma Room), 655 East Southern Ave** and the second one on **April 10, 2001 at 7:00 p.m. City Council Chambers at 31 E. 5th Street.** After completing the two public hearings by the Planning Commission, the Tempe City Council will hold two public hearings approximately three weeks after the matter is formally introduced and posted by the Council for hearings.

If your agency has any questions or comments please call me at (480)350-8586 or fax me your comments at (480)350-8872.

Sincerely,
Hector Tapia, AICP
Senior Planner

HT
Enclosure

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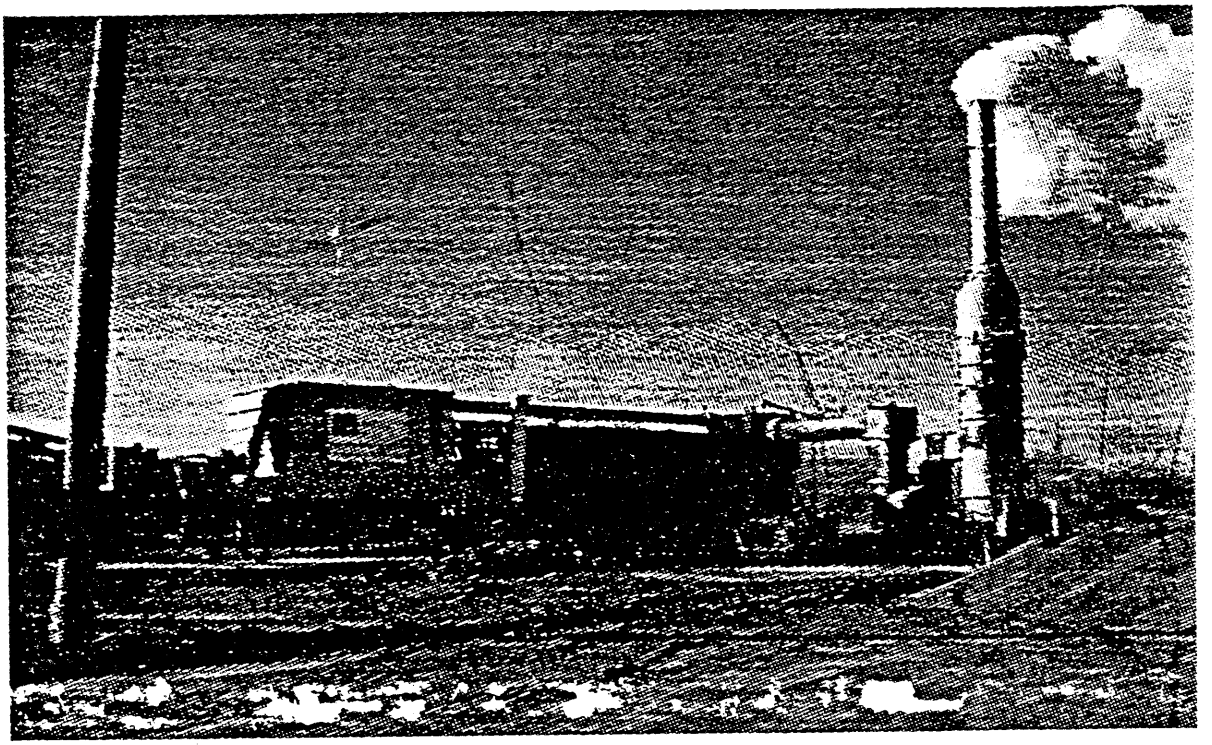
FEDERAL ON-SCENE COORDINATOR'S REPORT

SANDERS AVIATION SITE
TEMPE, ARIZONA
MARCH 24, 1995 - JANUARY 10, 1997



Prepared by
Tom Dunkelman, Federal On-Scene Coordinator
Emergency Response Section
U.S. EPA, Region IX
February 19, 1997

H

I. EXECUTIVE SUMMARY

Sanders Aviation Site ("the Site") is located at 7001 South Priest Drive in Tempe, Arizona. The Site currently consists of a 20-acre vacant lot. The Sanders Aviation Company (Sanders) operated as an aerial applicator of pesticides from 1951 to 1984. Soils at the Site were contaminated with a variety of pesticides; however the predominant contaminant was toxaphene. Surrounding properties include residential and commercial properties. The nearby residential communities include the town of Guadelupe, the Tempe Royal Estates subdivision and a residential development located along the southern boundary of the Site.

From March 24, 1995 -January 10, 1997, EPA conducted an emergency removal action at the Site. The initial phase of the removal action, which was conducted from March 24 - March 28, 1995, focused on site stabilization activities including removal of drums, application of a soil sealant, repairs to the perimeter fence and posting of warning signs. The second phase of the removal action, conducted from August 14 - September 29, 1995, consisted of performance of a low-temperature thermal desorption performance test. The goal of the test was to determine whether this technology could be used to safely and effectively treat contaminated soil at the Site. During this test, CET Environmental Services treated approximately 600 tons of contaminated soil using their low-temperature thermal desorption unit (TDU). Stack gas testing was performed by the EPA Emergency Response Team (ERT) and their contractor Roy F. Weston. ERT, Roy F. Weston and Ecology and Environment (under the START contract) also performed perimeter air monitoring during this period. The results of the performance test demonstrated that low-temperature thermal desorption could be used to treat contaminated soil at the Site, in compliance with federal, state and county requirements.

From December 14, 1994 to May 25, 1995, EPA also conducted biodegredation pilot tests to determine whether this technology could be used to treat soils onsite. These pilot tests demonstrated that up top 80% removal of toxaphene could be expected using this technology. While both technologies showed promise, EPA selected low-temperature thermal desorption as the cleanup technology for the Site based on the cost, lower level of treatment, time required for treatment and technical practicability.

After a delay caused by the federal budget impass, EPA began full-scale cleanup of the Site in February 1996. Soils which contained levels of toxaphene in excess of the site-specific cleanup standard of 17 mg/kg were excavated and stockpiled for treatment. A maximum excavation depth of 6 feet was followed. The only areas of the Site where contaminated soils were left in place below six feet include the disposal pond, dry well/wash pad/ area and run-up area. Treatment of contaminated soil using the low-temperature thermal desorption unit occurred from May 21, 1996 to January 8, 1997. In total, 25,491.617 tons of contaminated soil were treated. During the treatment process, contaminated soil was fed into the TDU at a rate of 12.5 tons/hour. Treatment operations continued 24-hours/day, 5

days/week during this period. Operations proceeded more or less continuously with only relatively minor delays caused by maintenance and repair needs. The treated soil was sampled on an hourly basis. For each batch of treated soil (a batch was considered to be any soil treated in a 12-hour period), the hourly process samples were composited and sent to the EPA Richmond lab for analyses. With one exception, all batches of treated soil met the land disposal treatment standard of 1.3 mg/kg of toxaphene. One batch contained 1.5 mg/kg of toxaphene, but this was well-within the treatability variance of 4.0 mg/kg established in the February 8, 1996 Action Memorandum. Consequently, the treated soil was used as onsite fill. Treatment operations at the Site were completed on January 8, 1997; backfilling and grading operations were completed on January 10, 1997; and CET demobed on January 17, 1997.

EPA is currently working with ADEQ, the City of Tempe and the property owners on issues relating to future use of the property. EPA anticipates that deed restrictions forbidding future residential-use of the property will be implemented. While the Site was remediated to levels that are within EPA's acceptable risk range for residential property, EPA feels the deed restriction is appropriate since contaminated soils were left in place below six feet in a few areas of the Site.

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Appendix A

Photographs of the Response Action

Appendix B

Sampling Activity Report, Ecology and Environment, February 10, 1997.

I. SUMMARY OF EVENTS

A. SITE CONDITIONS AND BACKGROUND

The Sanders Aviation site is located 7001 South Priest Drive in Tempe, Arizona, approximately 1600 feet north of Elliot Rd. and east of 56th St (see Figure 1, Appendix B). The Sanders Aviation Company (Sanders) operated as an aerial applicator of pesticides from 1951 to 1984. A variety of pesticides were handled onsite. Sanders routinely rinsed application equipment onsite. From 1951 to 1974, Sanders allowed rinse water to runoff into an unlined disposal pond (see Figure 2, Appendix B). From 1974 to 1984, Sanders allowed rinse water to runoff into two dry wells, onto a wash pad and/or onto the ground in the aircraft parking area, resulting in pesticide contamination of surface and subsurface soil. In addition, the surface soils in the area of the runup pad weare contaminated with pesticides.

Sanders operated on an eighty-acre parcel of land. The southern sixty acres, which formerly consisted of a agricultural land and half of the airstrip, was sold in 1984 and has been developed for residential and commercial/retail use. The northern 20 acres of the property, which included the remainder of the airstrip and the active portion of the crop-dusting facility, is currently a vacant lot surrounded by a barbed-wire fence. A single aluminum structure is present on the Site, as are several concrete pads. The area around the Site consists of residential and industrial property. The nearby residential communities include the town of Guadelupe, the Tempe Royal Estates subdivision, and a residential development located along the southern boundary of the Site.

Starting in 1983, Arizona Department of Health Services (ADHS) Waste Compliance Unit, and its successor the ADEQ Waste Compliance Unit, served as the lead agency in the investigation of the Site. Several phases of investigation were completed by consultants hired by Sanders Aviation. These investigations, which were conducted in 1983, 1984 and 1988, primarily focused on soil contamination; however, several groundwater samples were also collected. The most recent groundwater samples, collected in 1984 from three production wells located on or near the site, contained no detectable levels of pesticides or herbicides. Analyses of surface and subsurface soil samples indicated that toxaphene was the most prevalent contaminant at the site. Toxaphene had been detected in site soils at concentrations in excess of 23,000 ppm Other pesticides were also detected, including the following:

- DDT, DDE, DDD;
- disulfoton;
- methyl parathion;
- parathion;
- merphos; and
- carbaryl.

Several attempts at site remediation were attempted by Sanders and ADEQ, none of which successfully cleaned up the site. In January 1991, a 12,000 gallon aviation gasoline tank (located east of the hanger), a 10,000 gallon gasoline tank and a 1,500 gallon gasoline tank (both located between the hanger and the main building) were removed by a contractor hired by Sanders. In February 1991, the pit created by excavation of the 10,000 gasoline tank was excavated to 28 feet. In addition, Sanders excavated approximately 6,000 cubic yards of soil from the diposal pond area, and excavated an area of approximately 20 feet by 25 feet in the vicinity of the dry wells to a depth of 17 feet. The excavated soils were landfilled at the U.S. Ecology landfill in Beatty, Nevada. In March and April 1994, ADEQ undertook a Water Quality Assurance Revolving Fund (WQARF) emergency action in an effort to alleviate the physical and toxic hazards presented by the piles of contaminated soil and large excavations. ADEQ continued excavation of the disposal pond to a depth of 45 feet. When ADEQ determined that it could not attain clean closure for the disposal pond, the department backfilled the disposal pond and dry well area with soil from the Site. Apparently both clean and contaminated soil was used as backfill.

In July 1994, EPA received a request for assistance at the Sanders Aviation Site from ADEQ. In August 1994, OSC Dunkelman toured the Site with ADEQ staff. In December 1994, at the request of OSC Dunkelman, the EPA Technical Assistance Team (TAT) conducted a removal assessment at the site. The purpose of this assessment was delineate the areas of contamination and to quantify the volumes of soil likely requiring remediation. Over 250 soil samples were collected and analyzed as part of this assessment. Based on the removal assessment, it was determined that the following areas of the site would require remediation: disposal pond, wash pad/dry well area, aircraft parking area, and run-up pad/northern perimeter.

B. ORGANIZATION OF THE RESPONSE

The response at the Site was organized as follows:

AGENCY	CONTACT	DESCRIPTION OF DUTIES
U.S. EPA Region IX 75 Hawthorne St. San Francisco, CA 94105	Tom Dunkelman (415) 744-2294	Federal On-Scene Coordinator
Ecology and Environment	Amy Estey	START Project Manager

Technical Assistance Team 350 Sansome St., Suite 300. San Francisco, CA 94104	(415) 981-2811	
U.S. Coast Guard Pacific Strike Team Hangar 2, Hamilton Field Novato, CA 94949	Leon Terry (415) 883-3311	Site Safety Officer
CET Environmental Services 120 W. Dayton, Suite A-7 Edmonds, WA 98020	Chuck Bailey (206) 776-5088	Response Manager
Arizona Department of Environmental Quality 3033 North Central Ave. Phoenix, AZ 85012	Debbie Malone (602) 207-4453	State Contact

C. INJURY/POSSIBLE INJURY TO NATURAL RESOURCES

Soil contamination at the Site was limited to the facility boundaries and its immediate proximity. The most recent groundwater samples, collected in 1984, did not contain detectable levels of pesticides or herbicides. EPA did not collect groundwater samples; however, based on the depth to groundwater and the relative immobility of the contaminants it appears unlikely that groundwater resources would be at risk.

D. CHRONOLOGICAL NARRATIVE OF RESPONSE ACTIONS

Photographs of the response actions are included in Appendix A.

March 24 - 28, 1995.

Actions Taken: EPA conducted actions to stabilize the Site and to prevent exposure to Site contaminants. Two coats of soil sealant were applied to approximately 14-acres of the Site. Six drums were present onsite, five of which turned out to be empty. The one full drum was taken offsite for disposal. Repairs were made to the perimeter fence and warning signs were posted.

December 14, 1994 - May 25, 1995.

Actions Taken: During this period, EPA conducted anerobic biodegradation pilot tests to determine potential applicability of this technology at the Site. These tests involved setting

up several small test cells onsite. Toxaphene concentrations in the test cells were monitored periodically to evaluate the rate of toxaphene biodegradation. The test results demonstrated that close to 85% toxaphene removal could be expected in soils with initial concentrations of toxaphene of about 100 mg/kg. With higher levels of toxaphene, close to 80% removal could be expected by using blood meal amendments. Eventually, EPA selected thermal desorption rather than bioremediation as the treatment technology at the Site. This decision was based on a variety of factors including cost, level of treatment attainable, time required to atttain treatment standards and technical practicability.

August 14 - September 29, 1995.

Actions Taken: EPA conducted a low-temperature thermal desorption performance test. The goal of this test was to determine whether this technology could be used to safely and effectively treat toxaphene contaminated soil present onsite. Mobilization, set up and shakedown of the CET thermal desorption unit (TDU) occured from August 14 - September 21. After several delays due to equipment problems, the actual performance test was conducted from September 22 - 24. During this period, approximately 600 tons of contaminated soil were treated. The performance test primarily consisted of collection of soil process samples and stack gas testing. Soil process samples were collected to determine whether the TDU was capable of attaining the EPA-required treatment levels. Stack gas testing was conducted by the EPA Environmental Response Team (ERT) with contractor support provided Roy F. Weston personnel under the REAC contract. The goal of the stack gas testing was to determine whether the TDU was capable of meeting Federal, State and County emissions requirements. As is described in several Site reports (see list below), the goals of the performance test were met. Stack gas emissions were within Federal, State and County requirements. Perimeter air monitoring demonstrated that offsite transport of particulates was within acceptable limits. The performance test also demonstrated that the TDU was capable of meeting the required soil treatment standards.

March 4 - March 22, 1996.

Actions Taken: During this period EPA mobilized to the Site, conducted excavation of toxaphene contaminated soil, and stockpiled the excavated soil in the aircraft parking area in preparation for thermal treatment and demobed from the Site. The actual excavation and stockpiling was conducted by ERCS personnel, perimeter air monitoring and confirmation sampling was conducted by TAT personnel, an EPA mobile lab was present onsite to provide analyses of confirmation samples. PST personnel assisted OSCs Dunkelman and Mandel in directing the work. 1,321 truckloads of contaminated soil were excavated and stockpiled. At the time, it was estimated to be about 18,500 tons of soil would require treatment. As specified in the Action Memo, soil containing more than the EPA cleanup goal of 17 ppm was excavated from the disposal pond, wash pad area, run up pad and entrance way to the site. Also, as specified in the Action Memo, a maximum excavation depth of 6 feet was followed.

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The disposal pond, dry well/wash pad area and run-up pad area are the only areas of the Site where toxaphene contaminated soil was left in place below 6 feet beneath ground surface. Figure 3 shows the excavation areas and confirmation sample results. Perimeter air sampling and personnel sampling was conducted throughout the project.

April 22, 1996 - January 17, 1997

Actions Taken: During this period EPA conducted full-scale thermal treatment operations. 25,491.617 tons of contaminated soil (212 batches) were treated onsite using the TDU. Contaminated soil was fed into the TDU at a rate of 12.5 tons/hour. Treatment operations continued 24-hours/day, 5 days/week during this period. Operations proceeded more or less continuously during this period with only relatively minor delays caused by maintenance and repair needs. Statistics related to the treatment process (including number of batches, weight of each batch, process sample results) are presented in the table below. Hourly process samples of treated soil were collected and composited for each batch (a batch consisted of 12 hours worth of treatment - typically about 100 - 150 tons). Each process sample was submitted to the EPA Richmond lab for analyses. The level of toxaphene in all but one of the process samples was below land disposal restriction treatment standard of 1.3 mg/kg. One process sample contained 1.5 mg/kg of toxaphene; however, this was well-below the treatability variance level of 4.0 mg/kg of toxaphene established in the Action Memo. As a result, all treated soil was used as backfill onsite. Process samples were not collected from the last three batches (210, 211, 212), since results would not have been received prior to demobilization. The OSC determined this was appropriate, since all previous batches contained toxaphene below the treatability variance level.

During of the period December 1996 to January 8, 1997, the area beneath the contaminated stockpile (within the aircraft parking area) was excavated. Results of confirmation sampling are presented in Figure 3. The cleanup standard of 17 ppm toxaphene was attained for all areas beneath the stockpile with the exception of one area. For this area the last confirmation sample collected contained 22 ppm toxaphene. This area was then reexcavated to below grade. A final confirmation sample was not collected since the results could not be received prior to demobilization. However, the OSC determined that with the additional excavation below grade it was reasonable to assume the cleanup standard had been met.

A particulate emissions test was conducted on June 17, 1996, which demonstrated that particulate emissions were within acceptable limits. Throughout the duratiion of the project, continuous emissions monitoring was conducted for combustion gases. As described in the Thermal Desorption Work Plan, several waste feed cut-offs were identified. In the event that any of these operational parameters were not met, feed to the TDU was halted. In addition, perimeter air monitoring was also conducted for the duration of the project (see START final report) Thermal treatment operations were completed on January 8, 1997. Backfilling and grading operations were completed on January 10, 1997. CET demobed from the Site on

H

January 17, 1997.

EPA is currently working with ADEQ, the City of Tempe and the property owners on issues relating to future use of the property. EPA anticipates that deed restrictions forbidding future residential-use of the property will be implemented. While the Site was remediated to levels that are within EPA's acceptable risk range for residential property, EPA believes the deed restriction is appropriate since contaminated soils were left in place below six feet in a few areas of the Site.

The following is a list of significant documents and reports generated by EPA for the Sanders Aviation Site:

Action Memorandums:

- March 14, 1995, Action Memorandum.
- June 8, 1995, Action Memorandum.
- February 8, 1996, Ceiling Increase Action Memorandum.
- September 25, 1996, Ceiling Increase and Emergency Exemption Action Memorandum.

Assessment Reports:

- October 12, 1994, Site Visit/Preliminary Assessment, Ecology and Environment.
- November 8, 1994, Quality Assurance Sample Plan, Ecology and Environment.
- February 15, 1995, Site Assessment Report, Ecology and Environment.
- July 25, 1995, Quality Assurance Sampling Plan (Phase II), Ecology and Environment,
- September 30, 1995, Phase II Site Assessment Report, Ecology and Environment.
- June 19, 1996, Interim Sampling Activities Report, Ecology and Environment.
- February 10, 1997, Sampling Activities Report, Ecology and Environment.

Low Temperature Thermal Desorption Performance Test Reports:

- August 23, 1995, Thermal Remediation Work Plan, CET Environmental Services.
- July 1995, Quality Assurance Sampling Plan - Air Monitoring, Ecology and Environment.
- February 1, 1996, Sander Aviation Air Monitoring Trip Report, Roy F. Weston.
- November 17, 1995, Sanders Aviation Air Monitoring, Ecology and Environment.
- December 1995, Performance Test Report - Thermal Desorption Unit, Roy F.

Superfund Technical Assessment and Response Team

Sampling Activities Report

Sanders Aviation Removal

Tempe, Arizona

PAN: 0013-SASA-XX
TDD: S09-9601-013

U.S. Environmental Protection Agency
Region IX
Contract Number: 68-W6-0010

Prepared by:

Amy Estey

Superfund Technical Assessment and Response Team
Ecology and Environment, Inc.
San Francisco, CA

February 10, 1997

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Figure 3 Final Excavation Depth and Toxaphene Concentrations; Wash Pad
Figure 4 Final Excavation Depth and Toxaphene Concentrations; Entrance Way
Figure 5 Final Excavation Depth and Toxaphene Concentrations; Disposal Pond
Figure 6 Final Excavation Depth and Toxaphene Concentrations; Aircraft Parking
Figure 7 Salt River Project Toxaphene Concentrations and Final Excavation Depth

1.0 INTRODUCTION

The U.S. Environmental Protection Agency (EPA), Emergency Response Section (ERS) conducted a health-based Removal Action which addressed toxaphene contaminated soil at the Sanders Aviation Site in Tempe, Maricopa County, Arizona. The approximate geographical coordinates are 33°21'23.02" north latitude, and 111°57'46.49" west longitude (Figure 1). The EPA/ERS directed Ecology and Environment's Superfund Technical Assessment and Response Team (START) under Technical Direction Document (TDD) S09-9601-0013 to prepare Quality Assurance Sampling Plans (QASPs) for air monitoring, soil sampling and thermal desorption process monitoring, and to provide technical assistance to the EPA and United States Coast Guard (USCG) during site activities. The EPA has been involved with the Sanders Aviation Site for several years, previous TDDs which have directed actions are: T09-9408-005, T09-9410-0034, and T09-9510-31.

2.0 BACKGROUND

Sanders Aviation Company operated as an aerial applicator of pesticides in Tempe, Arizona from 1951 to 1984. In November 1983, the Arizona Department of Health Services (ADHS) Bureau of Waste Control conducted a Preliminary Assessment (PA) of the site and collected a groundwater sample from an on-site well. This sample indicated the presence of up to 0.02 mg/L of DDT and/or DDD in the groundwater. Consultation by ADHS with the Arizona Board of Pesticide Control (ABPC) found that a previous complaint had been filed with ABPC by the local phone company indicating the presence of several leaking 55-gallon drums on the site.

An ADHS Preliminary Assessment report dated November 2, 1983 recommended that an investigation be undertaken to determine the risk from direct contact with soils and the potential for groundwater contamination. In December 1983, Dames and Moore, consultants for Sanders Aviation, began a preliminary investigation to characterize and delineate the areas of soil and groundwater contamination on the property. This three phase investigation, completed in July, 1984, located three major areas of toxaphene surface contamination comprising an area of approximately 175,000 square feet with levels of contamination up to 9500 mg/kg. Later studies found much lower but significant levels of toxaphene contamination near the run-up pad and the concrete slab in the northwest corner of the site. Other pesticides were also detected on the site[1]. However, existing data indicates that these pesticides are present at levels much lower than toxaphene and present less of an environmental hazard. No pesticides were detected in groundwater samples collected from three existing wells on or near the site during later investigations.

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[1]Carbaryl, merphos, parathion, disulfton, 4,4-DDT, 4,4'-DDE and 4,4'-DDD have also been reported on the site.

Scott, Allard and Bohannan, a second consulting firm for Sanders Aviation, undertook an investigation of subsurface soil contamination in 1988. High levels of subsurface soil contamination were found in the disposal pond area, however, concentrations were found to decline to less than 10 mg/kg at depths of 15 feet or greater. This study indicated that the majority of the contamination was located in the first 5 to 10 feet of the soil and that extensive contamination at depth had not occurred.

Directed by ADHS Bureau of Waste Control, ICF Technology reassessed the property in September 1988, and recommended no further action under CERCLA. However, the Arizona of Environmental Quality (ADEQ), the successor to the ADHS Bureau of Waste Control, disagreed with the ICF findings and referred the facility to the EPA's CERCLA Preliminary Assessment, Site Inspection (PA/SI) program for a Site Inspection. A Site Inspection report was completed by ADEQ in June 1991 in which it was noted that the site may not be eligible for the NPL list because:

- The quantity of documented hazardous waste on the site is low.
- Sampling of nearby public supply wells in 1989 and 1990 did not detect toxaphene contamination.
- Neighboring cities of Tempe and Chandler do not depend solely on groundwater to meet public supply demands.

In March and April of 1994, ADEQ began an excavation of the disposal pond area. In the course of the excavation, elevated levels of toxaphene were still detected at depths of 50-feet. Additional remediation beyond their capabilities was required, causing the contractors for ADEQ to cease work. The excavations were subsequently backfilled with the excavated material and surrounding surface soils. ADEQ believes that the material used to backfill these excavations may have contained toxaphene.

3.0 SITE ACTIVITIES-SITE ASSESSMENT

In July of 1994, Edward Fox, Director of ADEQ requested assistance from the EPA. On-Scene Coordinator (OSC) Dunkelman then requested Ecology and Environment, Inc.'s Technical Assistance Team[2] (TAT) to assist EPA in further assessment of the site. In September of 1994 OSC Dunkelman and the TAT conducted a site inspection and evaluation of the Sanders Aviation site for possible action by ERS, see *Site Visit/Preliminary Assessment*, October 12, 1994, Ecology and Environment, Inc. The site inspection indicated a need for further action, and in December of 1994 the TAT conducted a removal assessment. The findings of this assessment were reported to

[2]Ecology and Environment, Inc.'s (E&E's) TAT contract formally ended in February, 1996 and was replaced by the Superfund Technical Assessment and Response Team (START) contract. From March 1996 forward, all worked performed by E&E on this site/project was performed under the START contract and will be referred in the documentation as such.

the EPA in the *Site Assessment Report*, February 15, 1995, Ecology and Environment, Inc. Then in July of 1995, the TAT conducted additional sampling as part of further removal assessment activities. Results of this work were reported in the *Phase II Site Assessment Report*, September 30. 1995, Ecology and Environment, Inc.

4.0 SITE ACTIVITIES-PERFORMANCE TEST

The Emergency Response Cleanup Services Contractors (ERCS) was tasked to conduct a performance test of a low-temperature thermal desorption unit (TDU) to thermally treat the toxaphene contaminated soils on-site. The EPA with ERCS and the Response, Engineering, and Analytical Contract (REAC) conducted a Performance Test in September 1995 and found the Destruction Removal Efficiency (DRE) for toxaphene was >99.9997%. No detectable concentrations of toxaphene, DDT or DDE was found in the stack samples collected during the test. Details of the Performance Test can be found in the *Performance Test Report-Thermal Desorption Unit*, December 1995, Roy F. Weston. Specifics of the TDU design and operation can be found in the *Sanders Aviation Thermal Remediation Work Plan,* August 1995, CET.

OSC Dunkelman had requested that the TAT prepare an air monitoring plan to track possible off-site migration of contaminants during the performance test. The TAT prepared a Quality Assurance Sampling Plan (QASP) documenting the proposed activities and performed perimeter monitoring at the site during the (TDU) test in August and September of 1995. The TAT and REAC conducted thorough air monitoring for both particulates and toxaphene. The results from this sampling showed little evidence of off-site migration. Additional information can be found in *Sanders Aviation Air Monitoring Trip Report*, February 1, 1996, Roy F. Weston, and *Sanders Aviation Air Monitoring,* November 17, 1995, Ecology and Environment, Inc.

5.0 SITE ACTIVITIES-EXCAVATION

In October 1995, OSC Dunkelman directed the TAT to prepare a QASP for the air sampling and a QASP for the soil sampling to be conducted during remediation work on the site. The air monitoring which took place during the performance test established that the toxaphene on-site was not a threat for migration, but the particulates would need to be monitored during future site activities. An air sampling QASP was completed to guide air monitoring to ensure particulate matter did not migrate off-site due to the excavation activities, blowing off the stock-piled soil, or being emitted from the TDU in operation (see *Quality Assurance Sampling Plan - Air Monitoring*, July 1995, Ecology and Environment, Inc.). The soil sampling QASP directed the sampling of soil during the excavation (see *Quality Assurance Sampling Plan*, May 30, 1996, Ecology and Environment, Inc.) .

The EPA, the United States Coast Guard/Pacific Strike Team (USCG/PST), the START, the Field Analytical Support Program (FASP) Laboratory, the ERCS, and the REAC mobilized to the site March 4, 1996 to begin excavation activities. The EPA provided overall direction for all site activities. The USCG assisted the EPA in oversight of all contractor activities. The START was responsible for air monitoring, soil sampling, laying the excavation grid lines, and coordinating with the FASP lab. The FASP lab provided on-site 24-hour turnaround analysis of toxaphene concentrations from soil samples during the initial excavation. The ERCS cleared surface debris, excavated and stock-piled the contaminated soil, and conducted dust suppression activities. The REAC assisted in air monitoring activities.

The excavation depths were based on results from the TAT's previous sampling. The soil was sampled again after excavation to confirm removal of all soil above the 17 mg/kg toxaphene action level or to a final depth of six feet as stated in the Action Memorandum dated February 8, 1996. For additional information on excavation activities, refer to *Interim Sampling Activities Report*, June 1996, Ecology and Environment, Inc.

5.1 AIR MONITORING

Air monitoring took place on-site primarily to ensure dust suppression measures were adequate. A meteorologic station and perimeter air sampling equipment were used to monitor potential off-site migration of particulates and toxaphene. Air sampling for toxaphene was conducted in the breathing zone of excavation personnel to confirm the correct level of personnel protection equipment was being utilized and to ensure that workers were not being exposed to the pesticide.

5.1.1 Meteorological Station (Met Station)

A Portable Met Station was set up on-site to record wind rose data and other weather information. The Met Station was located centrally on the site, away from trees or buildings which may effect its readings. The Met Station collected wind speed, wind direction, temperature, barometric pressure, percent humidity, and precipitation. This information was used for placement of the perimeter air monitoring stations during excavation, and for calculating the air volumes of samples collected.

The Met Station collected information 24 hours a day and was downloaded periodically from the storage module within the unit. The Met Station was set up at the beginning of site activities and remained in place until all excavation and thermal desorption activities were completed.

5.1.2 Off-site Dust Migration

5.1.2.1 OVS-2 tubes

During two significantly windy days, when maximum dust suppression measures were not adequate, the USCG with the assistance of the START conducted perimeter air monitoring for toxaphene in addition to the continuous particulate monitoring. OSHA Versatile Sampler (OVS) tubes specifically for sampling pesticides were used for this sampling effort. These OVS-2 tubes allow for both the collection of aerosols and vapors and are recommended by NIOSH for the collection of toxaphene samples.

OVS-2 tubes were placed at perimeter locations for the two windy days. All analytical results indicated there was no detectable toxaphene in the visible particulates on-site or migrating off-site.

5.1.2.2 RAMs

RAM-1, Real-time Air Monitors (RAMs) and one Real-time DataRAM were used for monitoring particulate migration off-site. These real-time aerosol monitors were programmed to download the measured values to a datalogger every 30 seconds and were recording data during all excavation activities.

The few times the action level of 1.25 mg/m^3 was exceeded, the site was placed on "warning" status. The majority of these incidents were caused by truck activity near the monitoring equipment, high winds disturbing the excessively dry, silty soil, or rain. When migrating dust levels rose above 1.25 mg/m^3, dust suppression activities were modified and the situation brought under control. All results indicate that dust suppression measures were exceptionally successful.

5.1.3 Personnel Monitoring

The USCG with the assistance of the START performed personnel monitoring of the ERCS crew conducting the excavation. Three workers were monitored for two days in order to detect any levels of toxaphene in their breathing zones. All analytical results from this testing indicated that workers were not exposed to detectable levels of toxaphene.

5.2 SOIL SAMPLING

The START conducted soil sampling at the site under the direction of the EPA.

Soil samples were collected to confirm the success of the excavation, and also for identifying the contaminated soil boundaries.

5.2.1 Excavation Confirmation

The initial excavation depths were based on previous site assessment activities. The grid sections for each excavation were ≤ 50 feet by 50 feet. The START conducted soil sampling after each excavation event, compositing soils within each excavation grid. The START collected five aliquots per section for a composite sample.

The FASP lab was set up on-site to expedite excavation activities. All samples were delivered to FASP for 24-hour turn around. If sample results indicated toxaphene concentrations greater than the 17 mg/kg action level, depth samples were collected and the area re-excavated based on depth sample results. The grid areas were excavated until the toxaphene of the composite samples fell below the 17 mg/kg action level or to a final depth of six feet. Figure 2 indicates all excavation areas and specifically, the areas where the soil was excavated to six feet. The areas excavated to six feet may still contain toxaphene at concentrations greater than the action level.

A Global Positioning System (GPS) unit was used on-site to survey the site and its landmarks. A map was procured from the Tempe Office of Planning and the GPS points were integrated into this map (Figure 2). The GPS unit utilized for this site was capable of accuracy of one meter or better. The latitudes and longitudes of the boundaries of the areas excavated to six feet are found in Table 1.

The sample collection areas and final concentrations can be found in Figures 3-6. Table 2 contains sample identification, final concentrations and final excavation depths.

5.2.2 Site Assessment Samples

The OSC directed the START to sample potentially contaminated areas on-site which had not been characterized during the previous assessments. One area sampled was an old pipeline running along the north fence. One sample of five aliquots of soil from the entire length of the pipeline was analyzed with a result of 2.3 mg/kg, well below the action level for excavation. Another area with potential for contamination was the north end of the west boundary of the site where soil had been pushed into piles, possibly when the site had been active or during previous assessment activities. The surface area at this location and the piled soil were sampled with analytical results of 9.9 mg/kg and 5.4 mg/kg

toxaphene respectively.

Two samples were also collected from the Salt River Project (SRP) property to the north of the site. These were grab samples from two low lying areas on the empty lot. One sample was collected approximately 25 feet north of the Sanders property on the SRP property and contained 26 mg/kg toxaphene. The other sample was collected from an area approximately 50 feet north into the SRP property and contained 8 mg/kg toxaphene. All results from the SRP property can be found on Figure 7.

Several samples also were collected to clarify contamination boundaries which were ambiguous from previous sampling activities. Table 3 contains the results from all site assessment sampling.

6.0 SITE ACTIVITIES-THERMAL DESORPTION UNIT (TDU) PROCESSING

The TDU was operational from April 1996 through January 1997. REAC, under direction of EPA/Emergency Response Team (ERT) conducted particulate sampling and performed continuous emissions monitoring (CEM) and certification during a seven day burn period. CEM activities continued for the duration of TDU processing. For more information please see *Particulate Test Report*, June 17, 1996, Roy F. Weston. After all preliminary activities were completed, a total of 25,492 tons of soil were treated. All treated soil was sampled in batches to confirm concentrations of toxaphene below the 1.3 mg/kg action level.

6.1 RESPONSIBILITIES

6.1.1 U.S. EPA

The U.S. EPA OSC, Tom Dunkleman, was responsible for the oversight of all site activities. The EPA directed all activities and all site personnel reported directly to the EPA.

6.1.2 START

The START was responsible for all soil sampling and air monitoring. Soil sampling was required for the excavation segment of site activities to ensure excavation was completed to the proper depth. Process samples were collected to ensure proper degradation of the toxaphene in the TDU. Additional soil samples were necessary to verify cleanup of the stock-piled soils and the site before demobilization. Air monitoring was conducted continuously during all excavation and soil treatment operations.

6.1.3 ERCS/CET

CET was the contractor for the ERCS and also the contractor for the Thermal Desorption Unit operations. ERCS were responsible for excavating all the soil and stockpiling it for the treatment. CET under a separate task order was responsible for all TDU operations.

CET was responsible for all activities involved with the TDU including installing natural gas and electric lines to the unit, construction and maintenance of the unit itself, certifying the Continuous Emissions Monitoring (CEM) system, thermally treating contaminated soils, backfilling and compacting EPA-certified treated soils, and dust suppression.

6.1.4 USCG/PST

The USCG/PST was responsible for assisting the EPA with documenting site activities, monitoring health and safety on-site, and overseeing the air monitoring equipment. They recorded all weights of soil, burner temperatures and all readings associated with the Waste Feed Cutoff alarm system[3]. The USCG/PST also monitored site conditions for health and safety issues which impacted the workers or the surrounding areas.

In addition to these duties, the USCG/PST collected process samples at one aliquot per hour and packaged and shipped them once a week to the EPA Analytical Laboratory in Richmond, CA. In the absence of START, they also conducted air monitoring.

6.1.5 REAC

The REAC was responsible for conducting the particulate certification and the CEM during the initial 7-day burn.

6.2 AIR MONITORING (RAMs and Data Acquisition System)

The DianaChart Insta-Trend Data Acquisition System (Data-Acq) was set up to retrieve data from the RAMs stationed on the perimeter of the stockpile and TDU. The Data-Acq was connected by cable to all perimeter RAMS and collected instantaneous particulate/aerosol readings. These readings were stored and downloaded daily to a computer floppy disk.

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[3]The Waste Feed Cutoff Alarms (WFCs) were the established limits which would shut down the TDU if exceeded. These alarms were triggered by temperatures, air flow, CO emissions, pressures, feed rates, and pH of specific TDU operations. For more information refer to the Thermal Remediation Work Plan, CET, 1996.

The Data-Acq was equipped with an alarm which would sound if readings on any of the instruments exceeded the 1.25 mg/m^3 action level. If an alarm would sound, there was a "memo" area to write a note concerning the cause of the action level being exceeded. Dust devils, water truck passing, construction on the property to the south, and activity near the station were common notes from alarms. These alarms indicate that the dust suppression activities were adequate during the burn.

The Data-Acq and RAMs were recording data during all TDU burning and soil-moving operations. The RAMs were taken out of service only during rain storms or for weekends when the TDU was not processing soil.

6.3 SOIL SAMPLING

6.3.1 Final Excavation Confirmation

All excavated soil had been stockpiled in the Aircraft Parking Area for treatment (Figure 6). After the treatment of the contaminated stockpile was complete, the area beneath the stockpile was excavated (Figure 6). The area was excavated to original grade, with the exception of one grid section which was excavated to a depth of three feet per previous assessment results. Composite samples were collected and analyzed, and as necessary, grids were re-excavated so that the cleanup standard of 17 mg/kg was attained for all grids with the exception of one area. For this area, the last sample collected contained 22 mg/kg toxaphene. This area was then re-excavated to below grade. This last area was not sampled as analytical results could not be provided prior to demobilization. The OSC determined that with the additional excavation below grade and with all previous site assessment results, it was reasonable to assume the cleanup standard had been met.

All soil samples were sent to the Region 9, Richmond Lab for one to two week turnaround for toxaphene analysis. The Richmond Lab used the same method and instrumentation as the FASP mobile lab so that continuity between the excavation phase and the processing phase was maintained.

6.3.2 Process Monitoring

Process samples were collected each hour from the TDU and sent weekly to the Richmond Lab. These hourly aliquots were combined in 12-hour batches and sent for toxaphene analysis. The treated soil from these 12-hour batches was segregated and clearly marked until analytical results were received. When the results were received and the soil was confirmed to be below the 1.3 mg/kg action level, the soil was backfilled

into the earlier excavated areas on-site.

Several batches of the treated soil had interference with a compound which eluted in the same range as toxaphene, but the patterns did not match toxaphene. These elutants were identified as phthalates and most likely were caused by small pieces of PVC tubing which were in the excavated soil. All but one of the samples sent for toxaphene analysis was below the 1.3 mg/kg land disposal restriction treatment standard. This one process sample contained 1.5 mg/kg toxaphene; however this was well below the treatability variance level of 4.0 mg/kg established in the Action Memo. All analytical results from the process batch sampling are presented in Table 4. The majority of the data validation is complete for the process samples. There are some pending results which should be available soon. All data validation to date confirms that all data meet quality control criterion. Process samples were not collected from the last three batches (210, 211, 212), since results would not have been received prior to demobilization. The OSC determined this was appropriate since all previous batches contained toxaphene below the treatability variance level.

7.0 SALT RIVER PROJECT (SRP)

The Salt River Project (SRP) owns the property directly north of the Disposal Pond Area and also the Highline Canal (Figure 7). As mentioned in Section 5.2.2, during the excavation of the Disposal Pond Area, toxaphene concentrations slightly above the 17 mg/kg action level were identified. The area along the canal was excavated by ERCS to a depth and proximity that would not compromise the integrity of the canal. The results from the property north of the Disposal Pond Area were passed along to SRP.

SRP completed a site assessment of the property to the north of Sanders Aviation. A minimal amount of soil was found to be contaminated with toxaphene. This soil was excavated transported to the Sanders Site and treated in the TDU.

8.0 CONCLUSION

The U.S. EPA, the USCG/PST, ERCS, CET, REAC and START successfully completed the Removal Action activities at the Sanders Aviation site. Toxaphene contaminated soil was removed from the site up to a depth of six feet or to a concentration below 17 mg/kg. A total of 25,491.617 tons of contaminated soil was excavated, treated and backfilled on-site.

Base map source: USGS 1:24,000 Guadalupe, Arizona topographic map, 1982

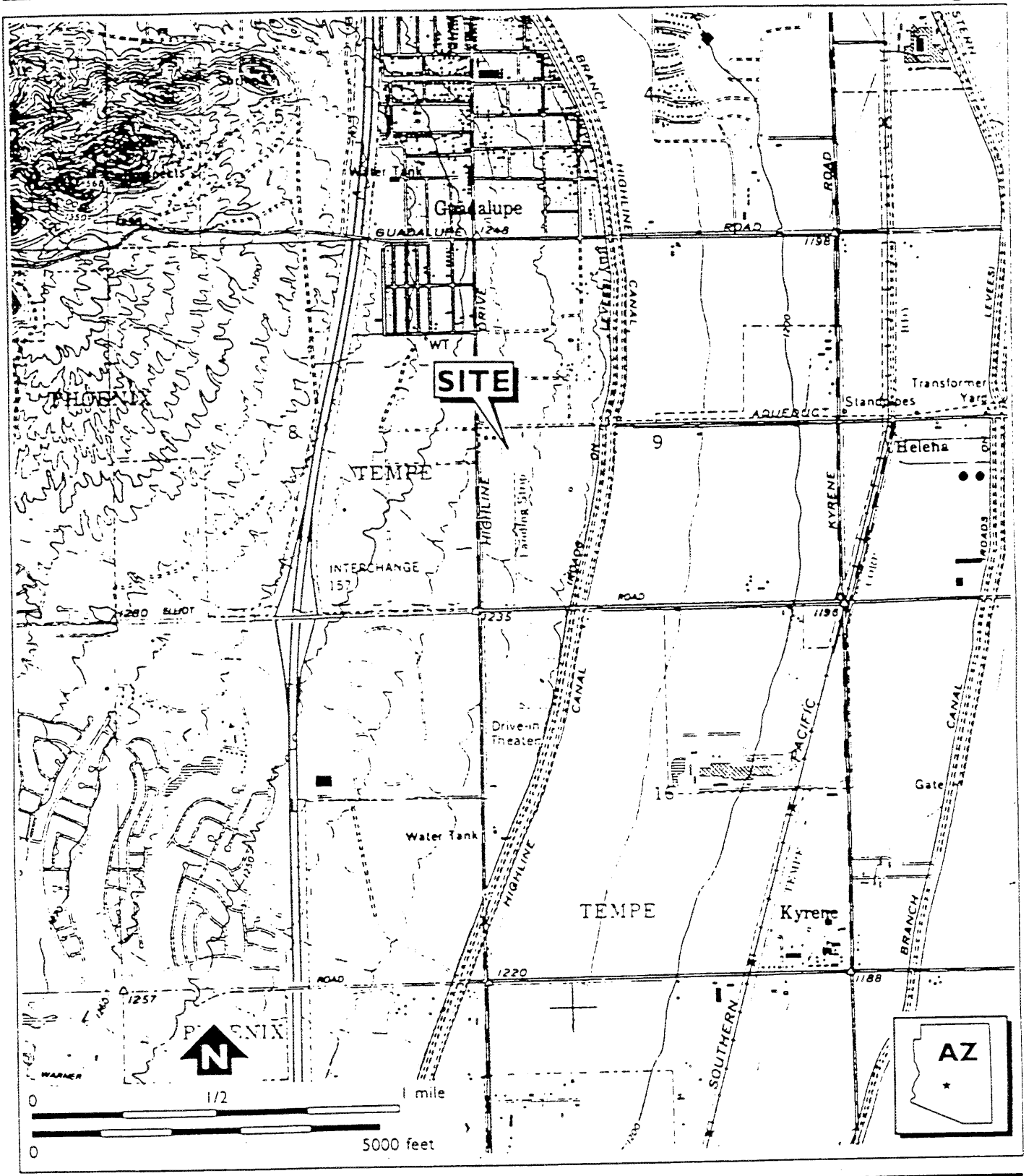

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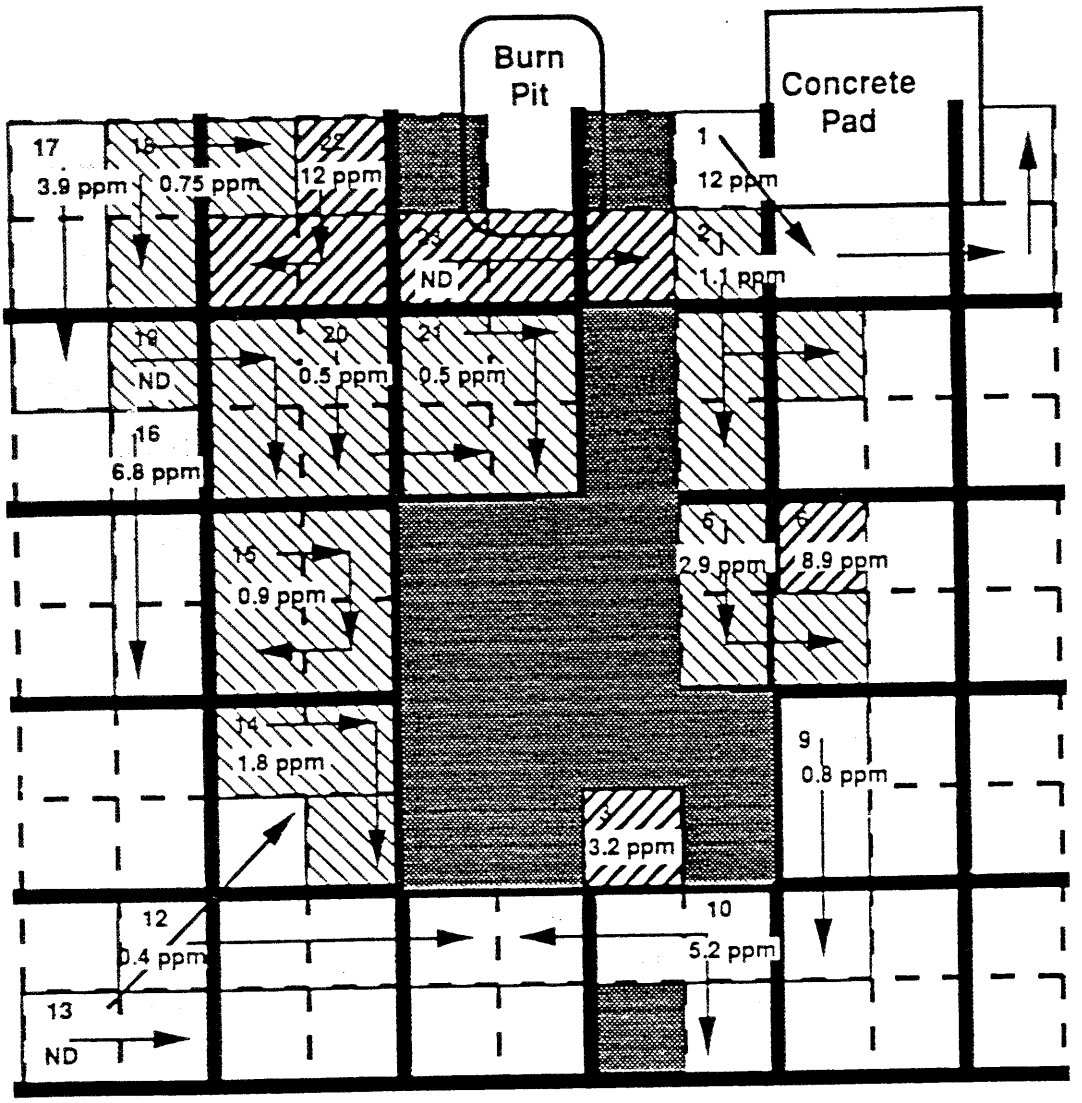
Figure 1

SITE LOCATION MAP

Sanders Aviation Site

Tempe, Arizona

TDD: 09-9601-0013
PAN: 0013SASAXX
Date: 01/30/96



Final Excavation Depths

- 1 foot
- 2 feet
- 4 feet
- 6 feet (not sampled)

N

SCALE

0 feet 100

(Numbers within grid correspond to sample identification-See Table 2)

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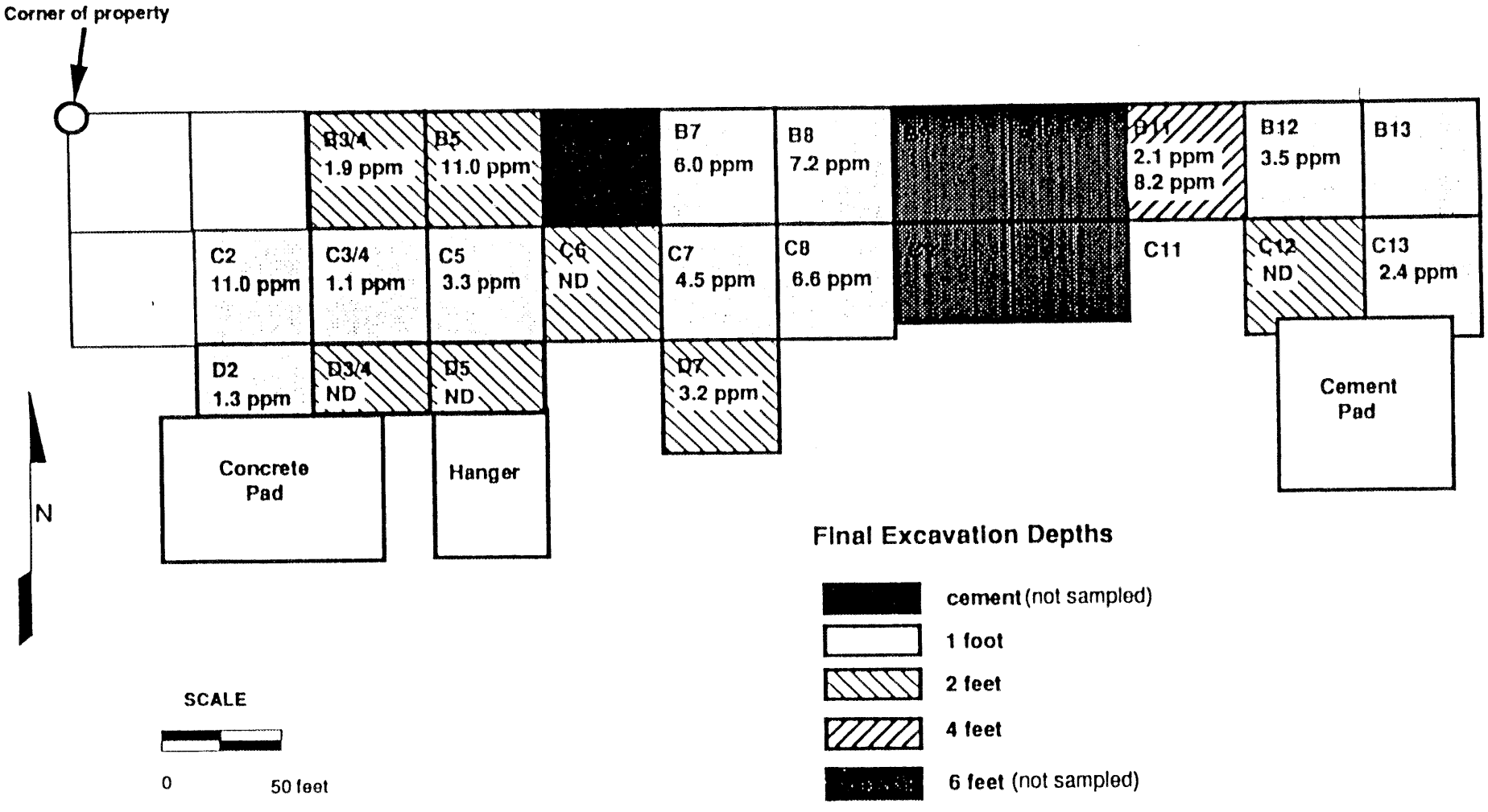
Figure 3
WASH PAD AREA
Sanders Aviation Site
Toxaphene Concentration at Final Depths
Tempe, AZ

TDD: 09-9601-0013
PAN: 0013SASAXX
Date: 01/30/97
File: fwascon.san



(Grid letter/numbers correspond to sample identification-See Table 2)

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Figure 4
ENTRANCE WAY AREA
Sanders Aviation Site
Toxaphene Concentration at Final Depths
Tempe, AZ

TDD: 09-9601-0013
PAN: 0013SASAXX
Date: 01/10/97
File: fentcon.san

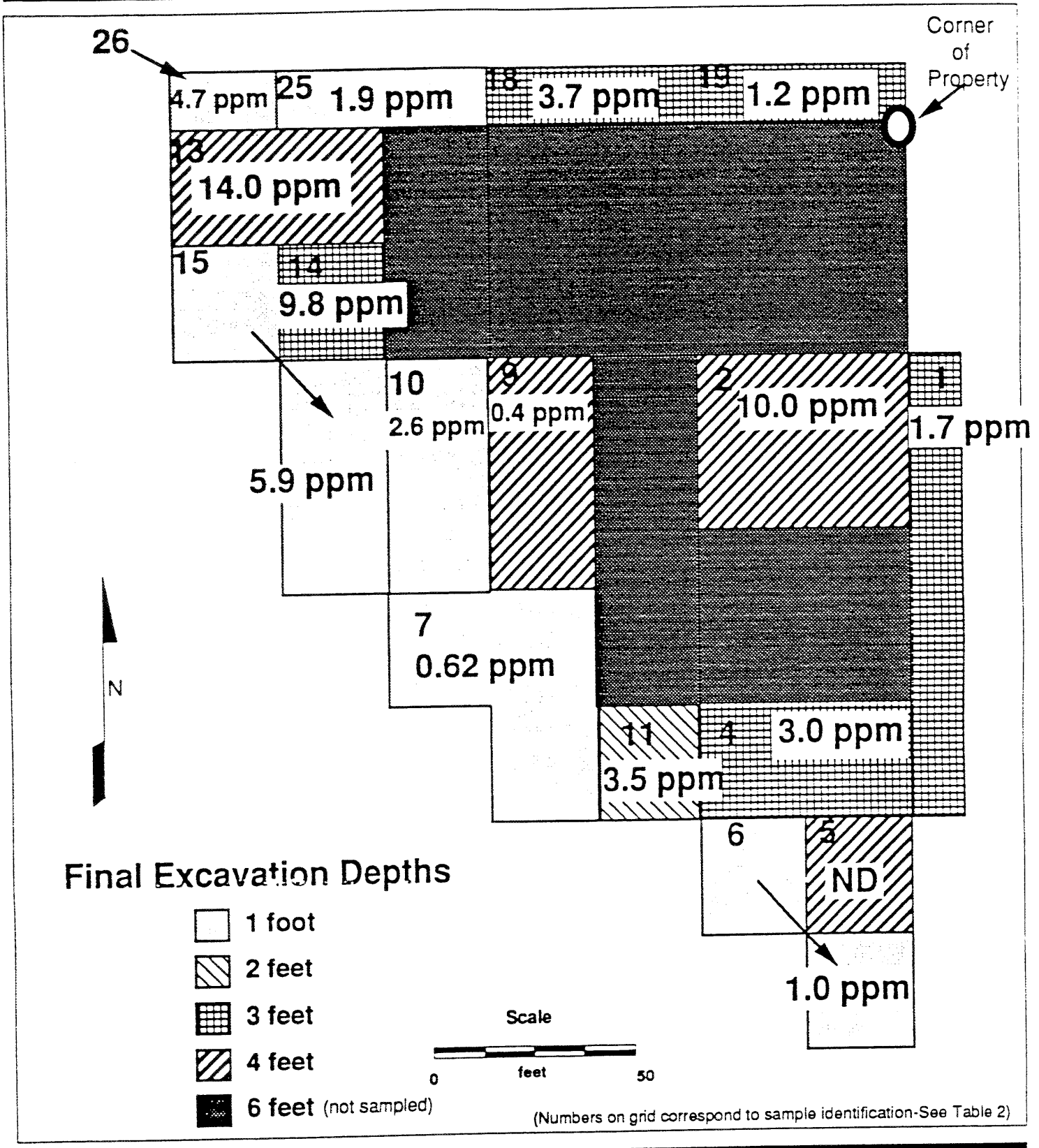

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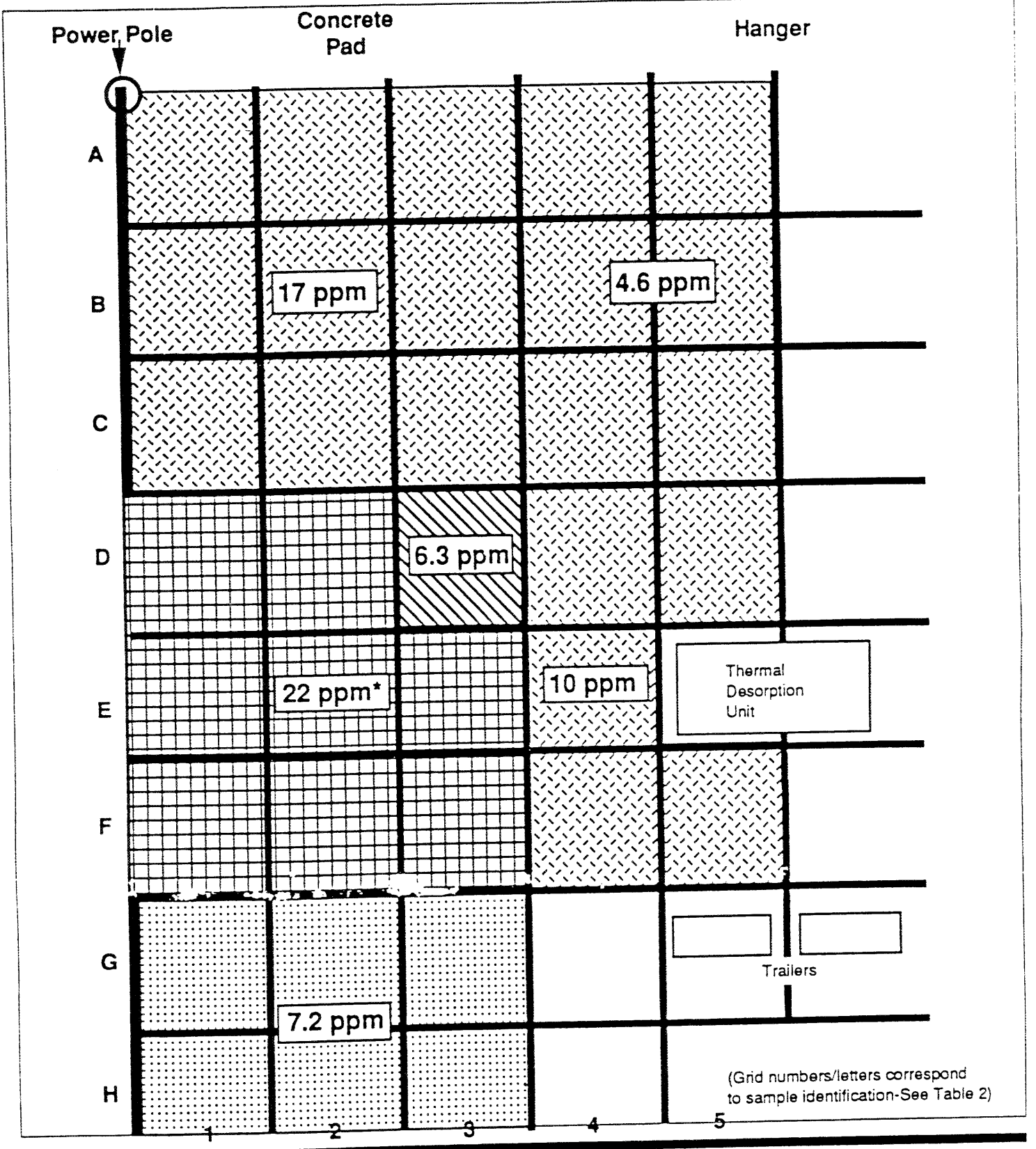
Figure 5
DISPOSAL POND AREA
Sanders Aviation Site
Toxaphene Concentrations at Final Depths
Tempe, AZ

TDD: 09-9601-0013
PAN: 0013SASAXX
Date: 01/30/97
File: fdiscon.san



* See section 6.3.1 for explanation

Final Excavation Depths

- 3 feet
- One Scrape Below Grade
- Two Scrapes Below Grade
- Excavated Stockpile to Original Grade

Figure 6
AIRCRAFT PARKING AREA
Sanders Aviation Site
Final Excavation Depths
Tempe, AZ

TDD: 09-9601-0013
PAN: 0013SASAXX
Date: 01/30/96
File: faircon.san

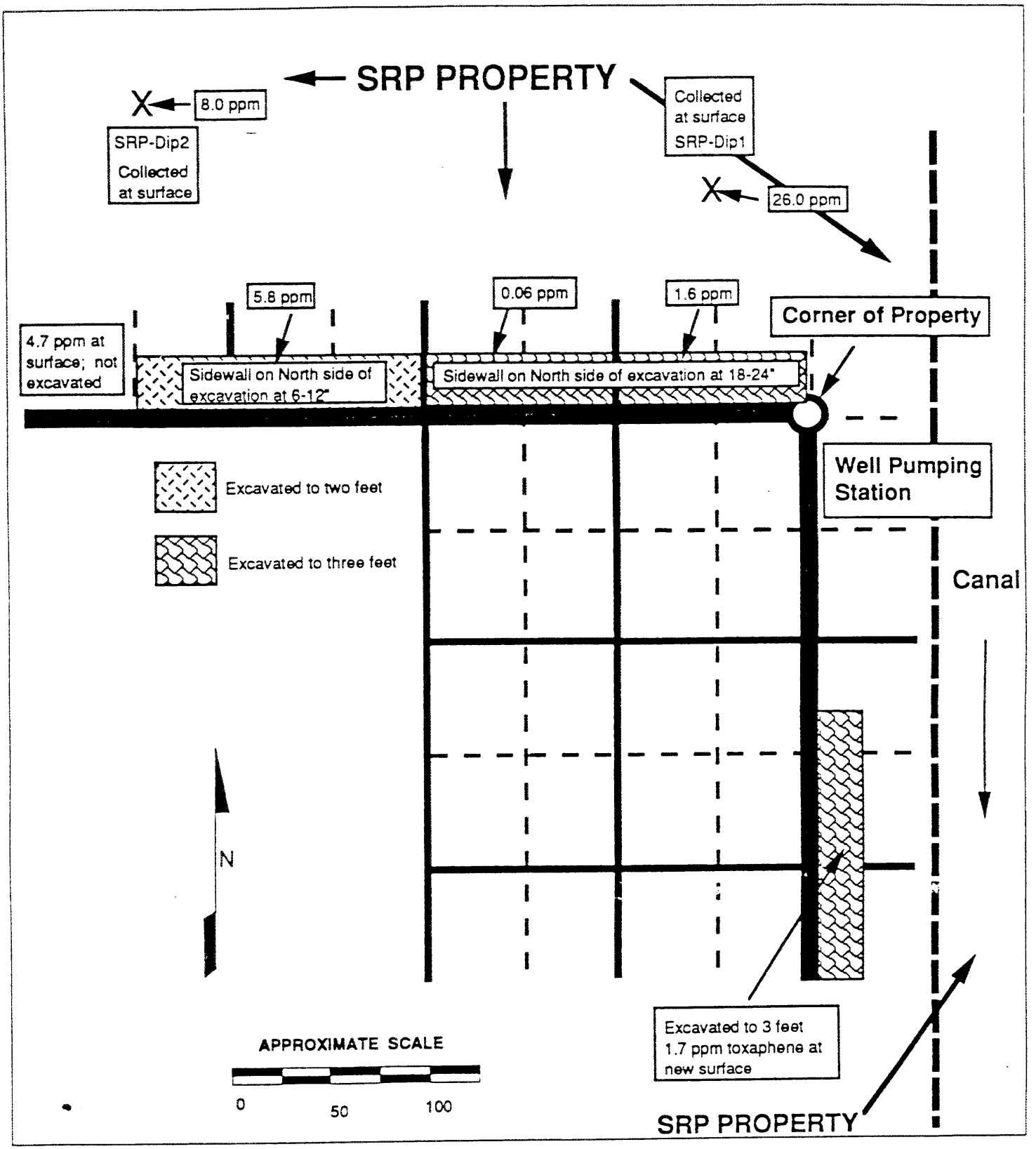


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Figure 7
SALT RIVER PROJECT (SRP)
PROPERTY
Sanders Aviation Site
Toxaphene concentration after removal
Tempe, AZ

TDD: 09-9601-0013
PAN: 0013SASAXX
Date: 01/30/97
File: srpside.san

Tempe, Arizona

EPA

Sanders Aviation Superfund Site

February 1997

Spanish Edition Available
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United States Environmental Protection Agency • Region IX • San Francisco, California

EPA Completes Cleanup Of Sanders Site

The U.S. Environmental Protection Agency (EPA) has completed the removal action, or cleanup, of the old Sanders Aviation site in Tempe, AZ (see map this page). After less than two years of EPA presence at the site, the Sanders property no longer presents an imminent and substantial threat to human health or the environment. Now a 20-acre vacant lot, the Sanders Aviation Company operated as an aerial applicator of pesticides from 1951 to 1984. Soils at the site were contaminated with a variety of pesticides; the predominant contaminant was toxaphene.

EPA's actions at the site concentrated on eliminating human and ecological exposure to toxaphene and leaving the site clean enough for safe use in the future.

Deciding How To Clean Up the Site

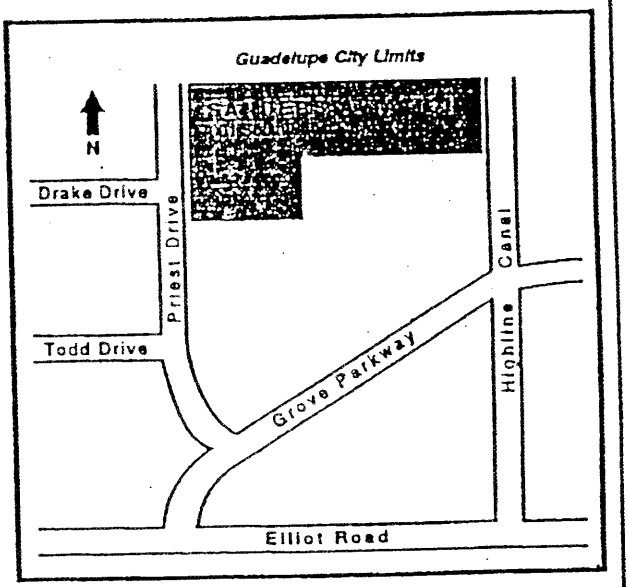
Beginning in March 1995, the initial phase of the response focused on site stabilization activities including removal of drums, application of a soil sealant, repairs to the perimeter fence and posting of warning signs. The second phase consisted of performing a low-temperature thermal desorption test to determine whether this technology could be used to safely and effectively treat contaminated soil at the site. The results of the performance test demonstrated that low-temperature thermal desorption could be used to treat contaminated soil at the site, in compliance with federal, state and county requirements.

EPA also conducted bioremediation pilot tests to determine whether this technology could be used to treat soils on site. While these bioremediation tests demonstrated that up to 80% removal of toxaphene could be expected, EPA selected the low-temperature thermal desorption technology based on cost, higher level of treatment, time required for treatment and technical practicability.

Site Cleanup

After a delay caused by the federal budget impasse in mid-1995, EPA began full-scale cleanup of the Sanders site in February 1996. Soils which contained levels of toxaphene in excess of the site-specific cleanup standard of 17 mg/kg were excavated and stockpiled for treatment. A maximum depth of six feet was followed. The only areas of the site where contaminated soils were left in place below six feet include the disposal pond, dry well/wash pad area and run-up area.

From May 21, 1996 to January 8, 1997, over 25,000 tons of contaminated soil were treated by the low-temperature thermal desorption method. During the treatment process, contaminated soil was fed into the unit at a rate of 12.5 tons per hour. Treatment continued 24-hours a day, five days a week during this period. Operations proceeded more or less continuously, with only relatively minor delays caused by maintenance and repair needs.



Site location map

The treated soil was sampled on an hourly basis. For each batch of treated soil (that which was treated in a 12-hour period), the hourly process samples were composited and sent to the EPA laboratory in Richmond, CA for analyses. With one exception, all batches of treated soil met the land disposal treatment standard of 1.3 mg/kg of toxaphene. One batch contained 1.5 mg/kg of toxaphene, but this was well-within the treatability variance of 4.0 mg/kg established by EPA. Consequently, the treated soil was used as on-site fill.

Treatment operations at the site were completed on January 8, 1997; backfilling and grading operations ended shortly thereafter and EPA contractors demobilized on January 17,1997.

Future Use of Property

EPA is currently working with the Arizona Department of Environmental Quality (ADEQ), the City of Tempe and the property owners on issues relating to future use of the property. It is anticipated that deed restrictions forbidding future residential use of the property will be implemented, even though the site was remediated to levels that are within EPA's acceptable risk range for residential property. The reason why EPA feels deed restrictions are necessary is because contaminated soils were left in place below six feet in a few areas of the site.

Summary

The Sanders project was one of the first sites remediated under the Superfund Accelerated Cleanup Model (SACM). The SACM method of cleaning up a site does not follow the traditional course that accompanies a listing on the National Priorities List (NPL), or Superfund list: extensive investigation, feasibility studies, remedial design and remedial action. If the Sanders site had been listed on the NPL, the total cleanup process could have taken five years or more. Instead, this site was moved directly into the cleanup phase, compressing the process into less than two years. The total site budget was $2.4 million.

Administrative Record

The administrative record contains the documents EPA used to support site-specific decisions. The administrative record for the Sanders site is available to the public at the following locations:

Tempe Public Library
3500 South Rural Road
Tempe, AZ 85252
(602) 350-5555

Superfund Records Center
95 Hawthorne Street
San Francisco, CA 94105
(415) 536-2000

For More Information

If you have questions about the Sanders Aviation site or the work EPA did there, please contact either of us at the numbers below or **TOLL-FREE at (800) 231-3075.**

Tom Dunkelman
On-Scene Coordinator
U.S. EPA
75 Hawthorne St. (SFD-6)
San Francisco, CA 94105
(415) 744-2294

Vicki Rosen
Community Involvement Coordinator
U.S. EPA
75 Hawthorne St. (SFD-3)
San Francisco, CA 94105
(415) 744-2187

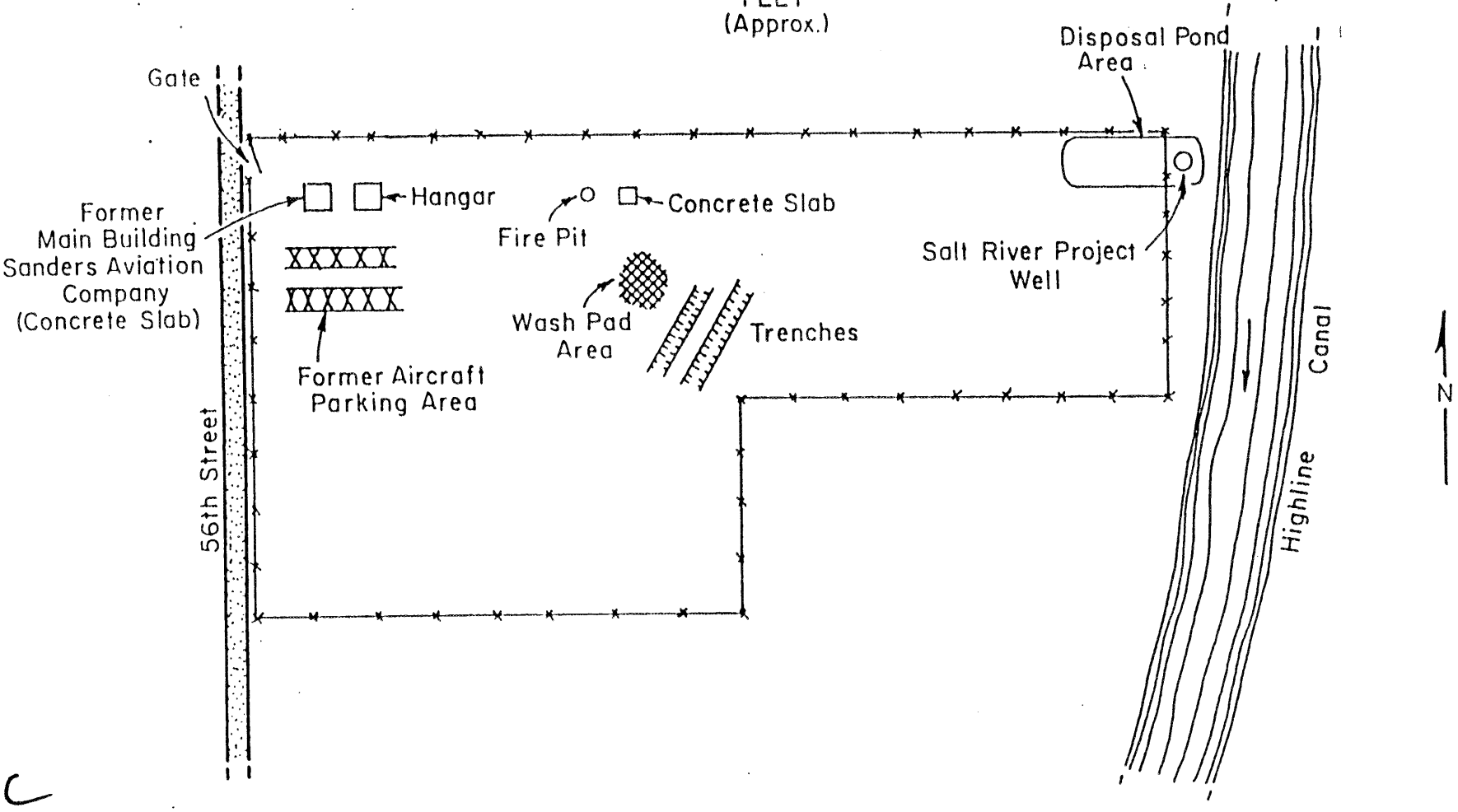
Prepared By S. Vaughn Date 4/9/87 Checked By M. Davis Date 8-22-91

FIGURE 2

SITE PLAN
SANDERS AVIATION CO.
TEMPE, ARIZONA

0 300 600

FEET
(Approx.)



ORDINANCE NO. 808.2001.02

AN ORDINANCE AMENDING SECTION I OF PART 2.F. OF ORDINANCE NO. 808 OF THE CITY OF TEMPE AND THE DISTRICT ZONING MAP ACCOMPANYING AND MADE PART OF THE SAID ORDINANCE NO. 808.

****

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF TEMPE, ARIZONA, as follows:

SECTION 1. That Section I.2.F. of Ordinance No. 808 of the Zoning Ordinance of the City of Tempe and the District Zoning Map of the City of Tempe accompanying and made a part of the said Ordinance No. 808 be and they are hereby amended by removing the below described property from the AG Agricultural to I-1 Light Industrial District.

LEGAL DESCRIPTION

That portion of the Southwest quarter of Section 9, Township 1 South, Range 4 East of the Gila and Salt River Base and Meridian, Maricopa County, Arizona, described as follows:

Beginning at the Northwest corner of the Southwest quarter of said Section 9 (the West quarter corner of said Section);
Thence South 89° 56' 00" East along the North line of said Southwest quarter 1869.32 feet to the West right-of-way line of the Highland Canal as recorded in Book 122 of Deeds, Pages 333 to 340, Maricopa County Records;
Thence South 3° 48' 00" West along the said West right-of-way line 218.32 feet to a point on the arc of a circle the center of which bears North 86° 12' 00" West 8,559.0 feet;
Thence Southwesterly along the arc of said circle, through a central angle of 0° 47' 5", a distance of 119.6 feet;
Thence South 89° 52' 21" West 1120.82 feet;
Thence South 0° 7' 39" East 330.0 feet;

K

Thence South 89° 52' 21" West 726.53 feet to the West line of said Southwest quarter;
Thence North 0° 02' 29" East along the said West line 672.92 feet to the Northwestern corner of said Southwest quarter and the Point of Beginning.

SECTION 2. Further, those conditions of approval imposed by the City Council, **Case #ZON-2001.02** are hereby expressly incorporated in ordinance by this reference.

PASSED AND ADOPTED by the City Council of the City of Tempe, Arizona, this ____ day of _____, 2001.

_____
Mayor

ATTEST:

_____
City Clerk

APPROVED AS TO FORM:

_____
City Attorney

_____
Development Services Director

K

RESOLUTION NO. 2001.12

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF TEMPE, ARIZONA, MODIFYING THE PROJECTED LAND USE MAP OF **GENERAL PLAN 2020** FOR ACRES AT 7001 SOUTH PRIEST DRIVE.

****

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF TEMPE, ARIZONA, that the Projected Land Use Map of **General Plan 2020** be modified at 7001 South Priest Drive to show 19.99 gross acres of Industrial rather than Residential: greater than 8 du/ac.

PASSED AND ADOPTED BY THE CITY COUNCIL OF THE CITY OF TEMPE, ARIZONA, this ___ day of _____, 2001.

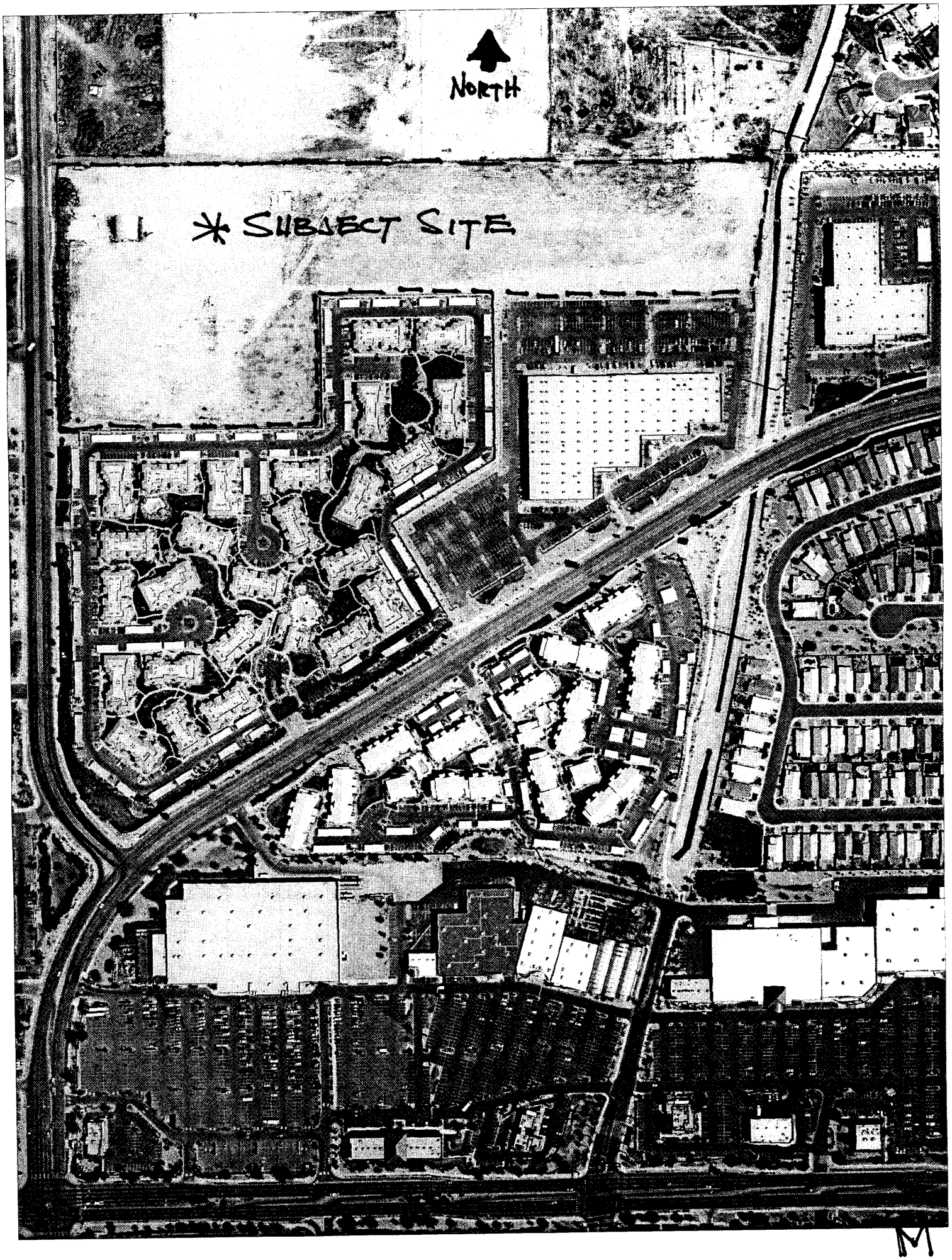
_____
MAYOR

ATTEST:

_____
CITY CLERK

APPROVED AS TO FORM:

_____
CITY ATTORNEY


NORTH
* SUBJECT SITE

MINUTES

Tempe

Planning & Zoning Commission

TUESDAY
APRIL 10, 2001

PRE-SESSION

The pre-session of the Planning and Zoning Commission began at 6:30 p.m., in the Council Chambers, 31 East Fifth Street. Present were Acting Chairman Huellmantel, Commissioners DiDomenico, Spitler, Oteri, Duke, Vaz and Alternate Commissioner Collett. Chairman Mattson was absent. Also present were Steve Venker, Principal Planner; Hector Tapia, Senior Planner; DeeDee Kimbrell, Planner II; Renée Hancotte, Management Assistant I and 5 interested citizens.

- Agenda Items:
  - Beck & University, #GEP-2001.25 public input only.
  - Priest Drive Office Complex, #GEP-2001.22, #ZON-2001.02, #SIP-2001.23 – discussion.
- Proposed Consent Agenda Item:
  - Greentree Acres, Lots 1, 2, & 3, #SBD-2001.28

The Commission then received a presentation and discussed with the following personnel the Tempe Alignment of Rail System and Criteria for Urban Design: Jayme Sue Olson, Transit Division, Valley Connections Light Rail Project Team consisting of Cristina Lenko, Betsy Moll, Marc Soronson, and Mike James.

The pre-session of the Planning & Zoning Commission adjourned at 7:00 p.m.

REGULAR MEETING

The regular meeting of the Planning and Zoning Commission began at 7:00 p.m., in the City Council Chambers, 31 E. Fifth Street. Present were Acting Chairman Huellmantel, Commissioners DiDomenico, Spitler, Oteri, Duke, Vaz and Alternate Commissioner Collett. Chairman Mattson was absent. Also present were Steve Venker, Principal Planner; Hector Tapia, Senior Planner; DeeDee Kimbrell, Planner II; Renée Hancotte, Management Assistant I and 10 interested citizens.

On a motion by Commissioner Spitler, seconded by Commissioner Duke, the Commission with a vote of 6-0, (Commissioner DiDomenico abstained) approved the Minutes of 03/27/01 as amended.

On a motion by Commissioner DiDomenico, seconded by Commissioner Vaz, the Commission with a vote of 7-0, approved the following consent item:

PLANNED DEVELOPMENT (0406) Request by **GREENTREE ACRES, LOTS 1,2, & 3** (Steven L. Petrie, property owner) for a Final Subdivision Plat located at 1015 East Greentree Drive. The following approval is requested from the city of Tempe:

#SBD-2001.28 A Final Subdivision Plat for three lots (1, 2, and 3) on 3.3 net acres at 1015 East Greentree Drive.

The approval was subject to the following conditions:

1. a. The Public Works Department shall approve all roadway, alley, and utility easement dedications, driveways, storm water retention, and street drainage plans, water and sewer construction drawings, refuse pickup, and off-site improvements.

   b. Off-site improvements to bring roadways to current standards include:
      (1) Water lines and fire hydrants
      (2) Sewer lines
      (3) Storm drains
      (4) Roadway improvements including street lights, curb, gutter, bikepath, sidewalk, bus shelter, and related amenities.

   c. Fees to be paid with the development of this project include:
      (1) Water and sewer development fees
      (2) Water and/or sewer participation charges
      (3) Inspection and testing fees

   d. All applicable off-site plans shall be approved prior to recordation of Final Subdivision Plat.

2. a. All street dedications shall be made within six (6) months of Council approval.

   b. Public improvements must be installed prior to the issuance of any occupancy permits. Any phasing shall be approved by the Public Works Department.

   c. All new and existing, as well as on-site and off-site, utility lines (other than transmission lines) shall be placed underground prior to the issuance of an occupancy permit for this (re)development in accordance with the code of the City of Tempe - Section 25.120.

3. No variances may be created by future property lines without the prior approval of the City of Tempe.

4. This Final Subdivision Plat shall be recorded with the Maricopa County Recorder's Office through the City of Tempe's Development Services Department prior to the issuance of permits. The Planning Division staff prior to recordation shall review details of the document format.

THE PLANNING COMMISSION THEN RETURNED TO THE REGULAR AGENDA.

PLANNED DEVELOPMENT (0406) Hold a public hearing for **BECK & UNIVERSITY** (Beck and University, LLC, property owner) for a mixed use development (retail and residential) located at 1200 West University Drive. The following approval is requested from the city of Tempe:

#GEP-2001.25 RESOLUTION NO. 2001.19 General Plan 2020 amendment to change the designation on the Projected Land Use Map of General Plan 2020 from Residential: greater than 8 du/ac to Mixed Use: Retail and Residential on 0.6 net acres.

Acting Chairman Huellmantel explained that the purpose of this hearing is to gather public input for the General Plan 2020 amendment only. The Planning Commission will not act on this case during this meeting.

Patrick Anderson represented the applicant and stated that the NWC of Beck and University is surrounded by single family and high density multi-family. Their request is consistent with the Sunset Riverside Strategic Plan. They are proposing 34 townhomes and a small commercial site. He will be attending the Advisory Board meeting tomorrow night.

There was no audience participation.

This case was closed by Acting Chairman Huellmantel with the full request being heard on May 8th.

PLANNED DEVELOPMENT (0406) Hold a public hearing for **PRIEST DRIVE OFFICE COMPLEX** (Alfred P. Sanders Estate Trust, property owner) for an office complex located at 7001 South Priest Drive. The following approval is requested from the city of Tempe:

#GEP-2001.22 RESOLUTION NO. 2001.12 General Plan 2020 to change the designation on the Projected Land Use Map of General Plan 2020 from Residential: greater than 8 du/ac to Industrial on 19.99 gross acres.

#ZON-2001.02 ORDINANCE NO. 808.2001.02 Zoning change from AG, Agricultural to I-1, Light Industrial Zoning District on 19.14 net acres.

#SIP-2001.23 A Site Plan for Priest Drive Office Complex consisting of 9 one-story buildings. 110,000 s.f. for office, building A, and buildings B, C, D, E, F, G, H, and I with a combined total of 100,050 s.f. for office/warehouse uses all with a total on site building area of 210,050 s.f. on 19.14 net acres located at 7001 South Priest Drive.

Steve Bauer represented the applicant and stated that the site is surrounded by Industrial use along the north, some residential along the northeast and multifamily to the south. Mr. Bauer also noted that the applicant is in full conformance with staff conditions after obtaining clarification on Condition #6. The site has been fully remediated to the satisfaction of the EPA and it has closed the file on this site. The three hot spots on the property (Mr. Bauer showed those spots on a map) will be paved and will not contain any buildings. Retention areas are along the perimeter of the site.

The Commission raised questions on the location of the dry wells and the proximity of the hot spots. Concerns were raised on the pesticides seeping into ground water. Discussion was held on whether to add or modify a condition with respect to this site.

In answer to a question by Commissioner Spitler on excessive parking, staff responded that while there is additional parking, the lender requires these parking numbers as a requirement for financing.

MOTION: Commissioner Spitler made a motion to approve #GEP-2001.22, #ZON-2001.02, #SIP-2001.23 with the conditions as noted on the staff report with a modification to Condition #1.a. (see below). Commissioner DiDomenico seconded the motion.

VOTE: Passed 7-0.

The approval was subject to the following conditions:

1. a. The Public Works Department shall approve all roadway, alley, and utility easement dedications, driveways, storm water retention, and street drainage plans, water and sewer construction drawings, refuse pickup, and off-site improvements. When reviewing and approving dry wells and drainage plan, staff should pay particular attention to the history of the site and hazardous material that once existed. **(MODIFIED BY COMMISSION)**

   b. Off-site improvements to bring roadways to current standards include:
      (1) Water lines and fire hydrants
      (2) Sewer lines
      (3) Storm drains
      (4) Roadway improvements including street lights, curb, gutter, bikepath, sidewalk, bus shelter, and related amenities.

   c. Fees to be paid with the development of this project include:
      (1) Water and sewer development fees
      (2) Water and/or sewer participation charges
      (3) Inspection and testing fees

   d. All applicable off-site plans shall be approved prior to recordation of Final Subdivision Plat.

2. a. All street dedications shall be made within six (6) months of Council approval.

   b. Public improvements must be installed prior to the issuance of any occupancy permits. Any phasing shall be approved by the Public Works Department.

   c. All new and existing, as well as on-site and off-site, utility lines (other than transmission lines) shall be placed underground prior to the issuance of an occupancy permit for this (re)development in accordance with the code of the City of Tempe - Section 25.120.

3. Should the property be subdivided, the owner(s) shall provide The applicant/owner shall provide a continuing care condition, covenant and restriction for all of the project's landscaping, required by Ordinance or located in any common area on site. The CC&R's shall be in a form satisfactory to the Development Services Director and City Attorney.

4. No variances may be created by future property lines without the prior approval of the City of Tempe.

5. Design Review Board shall approve this request prior to the issuance of a building permit.

6. A building permit shall be obtained and substantial construction commenced within two (2) years of the date of Council approval or the zoning shall revert to that in place at the time of application.

7. The applicant shall comply with all applicable state and federal laws regarding archeological artifacts on this site.

8. The developer shall provide the City with satisfactory evidence of cross access and cross drainage prior to the issuance of a building permit.

9. The applicant shall resolve all lighting and security details with the Police Department prior to the issuance of a building permit.

The regular meeting of the Planning & Zoning Commission adjourned at 8:00 p.m.

POST-SESSION

The post-session of the Planning and Zoning Commission began at 8:00 p.m. in the Council Chambers, 31 East Fifth Street. Present were Acting Chairman Huellmantel, Commissioners Spitler, DiDomenico, Oteri, Duke, Vaz and Alternate Commissioner Collett. Chairman Mattson was absent. Also present were Steve Venker, Principal Planner; Hector Tapia, Senior Planner; DeeDee Kimbrell, Planner II; Renée Hancotte, Management Assistant I and 2 interested citizens.

Presentation and discussion with the following personnel on the new Tempe Bridge design: Jayme Sue Olson, Transit Division, Valley Connections Light Rail Project Team consisting of Cristina Lenko, Betsy Moll, Marc Soronson, and Mike James. The Commission gave the Valley Connections Light Rail Project Team their priorities on the bridge design.

The post-session of the Planning & Zoning Commission adjourned at 8:45 p.m.

Hector Tapia
Senior Planner
/jrh